Pentland's Medical Series.

VOLUME FIRST.

Albert Wilson
91

DISEASES OF THE SKIN.

Πολλὰ τὰ δεινὰ κοὐδὲν ἀν-
θρώπου δεινότερον πέλει.

. . . .

παντόπορος· ἄπορος ἐπ' οὐδὲν ἔρχεται
τὸ μέλλον· Ἅιδα μόνον
φεῦξιν οὐκ ἐπάξεται·
νόσων δ' ἀμηχάνων
φυγὰς ξυμπέφρασται.

Sophocles, *Antigone*, lines 332-333—360-365.

"Many the things that strange and wondrous are,
None stranger and more wonderful than Man;

. . . .

Armed at all points, unarmed he nought shall meet
That coming time reveals;
Only from Hades finds he no retreat,
Though many a hopeless sore disease he heals."

Professor Plumptre's Translation.

DISEASES

OF

THE SKIN.

A MANUAL FOR PRACTITIONERS AND STUDENTS.

BY

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WITH WOODCUT AND NINE COLOURED ILLUSTRATIONS.

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TO

SIR DOUGLAS MACLAGAN, M.D., LL.D.,

PROFESSOR OF MEDICAL JURISPRUDENCE IN THE UNIVERSITY OF EDINBURGH,
SURGEON-GENERAL TO THE ROYAL COMPANY OF ARCHERS,

MY KIND AND STEADFAST FRIEND SINCE ENTERING THE PROFESSION OF MEDICINE,

WHO FIRST DIRECTED MY THOUGHTS TO THE STUDY OF DERMATOLOGY AND AIDED ME IN MANY WAYS IN ITS PURSUIT;

AND

WHOSE BUSY LIFE, SO USEFULLY AND UNSELFISHLY SPENT, SO WORTHILY CROWNED,

HAS SERVED ALIKE AS A MODEL FOR IMITATION AND AS A STIMULUS TO CONTINUED EFFORT,

I MOST GRATEFULLY, MOST AFFECTIONATELY,
DEDICATE THIS BOOK.

PREFACE TO THE THIRD EDITION.

UNAVOIDABLE circumstances have delayed the issue of this third edition for some months after its predecessor was out of print. In revising the volume, additional space has been afforded to various subjects which have recently come into prominence. Among these may be mentioned Dermatitis herpetiformis and Pityriasis maculata; while detailed descriptions of Lymphangioma circumscriptum, of Pityriasis rubra pilaris, of Xanthoma diabeticorum, and of Leprosy have been furnished. Throughout, many improvements will be found scattered, and the Author ventures to hope that, viewed in the light of a record of personal experience, it will prove, in this amended form, to the student and practitioner alike, even more useful than heretofore.

35 CHARLOTTE SQUARE,
July 1891.

PREFACE TO THE SECOND EDITION.

THE exhaustion of a large edition in less than nine months has not permitted sufficient time to elapse to render necessary any extensive alterations in the plan of this work. At the same time, in deference to hints from friendly critics, it will be found to be strengthened in various particulars. Two new chapters appear, one dealing with the Hygiene of the Skin, the other with Epithelioma. Pemphigus is now treated as a bullous form of Exfoliative Dermatitis.

The question of the contagiousness of Alopecia Areata, and that of the influence of the exanthemata on Ichthyosis, is alluded to; while the treatment of Psoriasis by anthrarobin, of Lupus by lactic, of Epithelioma by chromic acid, is detailed.

Very numerous minor additions, chiefly amplifications of description or of diagnosis, or the introduction of new Formulæ, have been made; so that although some of the less typical cases are omitted, and others curtailed, the volume has increased more than thirty pages.

26 RUTLAND STREET,
January 1889.

PREFACE TO THE FIRST EDITION.

In the kingdom of Nature there are periods during which the continuity of evolution seems suspended, and rest reigns; and in the domain of Science there are similar epochs, when activity, alternating with comparative repose, prevails. For the last ten years the progress of Dermatology has been rapid, fresh discoveries as to the essence of Cutaneous Diseases and improved modes of treating them following closely on each other. But there are signs that the wave of advance has been, for the time, slackening; and I have taken advantage of the opportunity thus offered to gather up the disconnected threads and to present them in a concrete form, so far at least as they are related to the affections of the Skin endemic in the British Isles. While, therefore, this volume represents data and conclusions drawn from individual experience, it at the same time is largely indebted to the observations of others.

In so far as possible, references have been given to all the Authors quoted; but there are two names which recur so frequently, that some more special acknowledgment is demanded with respect to them. Dermatology has gained so much on its clinical and philosophical side from the writings of Mr. Jonathan Hutchinson, and on its practical and thera-

peutical from the labours of Dr. P. G. UNNA, that no worker in this field can fail to value most highly what has been accomplished by them.

My thanks are also due to the President of the Royal College of Surgeons, Dr. JOSEPH BELL, for assistance of the utmost value in preparing this work, which is intended to reflect the teaching of the present day, on the subjects with which it deals, in the Edinburgh Medical School.

26 RUTLAND STREET,
January 1888.

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DISEASES OF THE SKIN.

DISEASES OF THE SKIN.

CHAPTER I.

GENERAL SKETCH OF THE STRUCTURE AND PHYSIOLOGY OF THE SKIN AND ITS APPENDAGES.

In commencing the study of the diseases to which the skin is liable, we must first of all have an accurate conception of its structure, so far as this has been made out, as, unless we understand the skin itself in a state of health, we can form no proper idea of the disorders which affect it. The anatomy and the physiology of the skin can very well be studied together, and in treating of these, I shall only do so in such a manner as to bring out those particulars which have special bearings on the diseases of the skin. Some points of minute anatomy will therefore be omitted, others insisted on.

The primary function of the skin is to serve as a tough yet sensitive and elastic covering for the body. It thus shields the internal mechanism from injury, and protects from rude contact with the external world. The skin must be regarded as a great excreting organ; by its agency we are conscious of alterations of temperature, through it we feel, and by its means the heat of the body is maintained at a uniform standard. The absorptive power of the skin is small, so perfect a protection does the uninjured horny covering provide. Unless the substance to be so introduced is not only brought into intimate relationship with the surface of the epidermis, but is maintained in contact

with it for a considerable period of time, no evidence is otherwise afforded of its having gained access. Dissolved in an oily medium and rubbed in, it may be made to enter the gland ducts, and thence be taken up by the vessels which invest their walls, or it may be forced through minute breaches of continuity in the epidermis itself; or deposited in the condition of an impalpable powder by the agency of a vapour bath; or in the form of a watery solution, or compounded as a plaster, and then covered by a film of some substance which resists transpiration, it may be made to enter the circulation, and manifest its presence by constitutional symptoms. Only certain substances, however, are so absorbed as to occasion well-pronounced effects. Among such may be mentioned mercury and its salts, sulphur, and carbolic acid. The surface of the skin in health and during the period of vital activity presents an almost velvety softness, with a certain degree of unctuousness, which latter, though increased by want of cleanliness, and greater in some individuals or races than in others, is never wholly imperceptible. We judge of the nutrition of the skin by the presence of this slight oiliness. Its exterior, too, concurrently with this, is comparatively dense and resisting, and it is this quality which enables it to withstand so well as it does the often injurious influences of weather and occupation. The epidermis is a feeble conductor of heat and electricity. It limits the absorption of the cutis, and prevents the too rapid evaporation of the fluids of the underlying tissues.[1] Certain linear markings are also found on it, more or less pronounced in some localities, in different individuals, and at various ages. Some of these are fine, crossing each other at, or nearly, right angles, and correspond to the spaces between the papillæ or projections of the true skin. These are nearly effaced in plump, but very distinct in spare persons. Others are deeper and larger lines, which represent lines of flexion, or places where the skin is thinner, and bound down more firmly to the parts beneath, or

[1] Ravogli, *The Hygiene of the Skin*, Cincinnati, 1888.

is itself condensed. Other lines again are due to the shrinking of the skin, which takes place in consequence of the atrophy of its structure as a result of old age; others from habitual contraction in certain fixed directions, or wrinkles. Lewinski,[1] indeed, has tried to show that all the cross markings on the skin are due to repeated muscular action. When a part of the body is approximated to another, the skin is compressed and arranged in minute folds, while at the same time other portions are stretched, and the skin furrowed in the line of traction. The more extensive and complicated the movements are in any given part, the more elaborate will be the patterns which these lines and markings will assume. These furrows allow for expansion to a certain degree on the part of the epidermis.

We may speak of the skin under three divisions.

1*st.* What may be termed the skeleton or framework, which, besides its other offices, binds together and supports the other included parts. This is the skin proper, consisting of the epidermis, the true skin, and the subcutaneous areolar tissue, with its fat. With this must be considered the vascular, nervous, lymphatic, and muscular elements of the skin.

2*d.* The glands contained within it, which produce oil, perspiration, and hair.

3*d.* The appendages which it bears, the hair and nails.

We may think of the skin as a series of layers of actively growing cells, the mucous layers of the epidermis, which secrete or elaborate their horny covering, much as the snail does its shell. These cells are sustained on a felt-like arrangement of fibres, which supports them like a cushion, and supplies them in the most perfect manner with nutritive material, while at the same time the outer horny layer is lubricated with oil, is moistened and kept from putrefaction by a briny fluid—perspiration—and is saved from friction by a more or less abundant covering of hair or down. The outer layer, or epidermis, is divisible in favourable specimens, and, in some localities at

[1] Virchow's *Archiv*, April 1883.

least, into four layers. Of these two belong to the horny, and two to the mucous or vegetative layer. The most external layer is essentially insensitive and protective. It consists of flattened cells which have become converted into keratine, and are, except on the very surface, intimately and closely united, and with difficulty separable. The most external of these cells are being gradually loosened, and are continually cast off. This shedding is nearly imperceptible in health, as indeed all the waste of the body is. It is this which makes up the greater part of the cloud of dust which flies off when a stocking is shaken after having been worn for a few days. When this dust is examined, it is found to consist of dry plates of keratine, which contain no or the mere trace of a nucleus, and are granular or fatty.

Beneath the true horny layer lies the band of Schron or Oehl's stratum lucidum, a thin, brightly refracting, and indistinctly striated layer, which stains red with picro-carmine. Unna thinks that when the skin becomes suddenly heated, the narrow slit-like opening in this, through which the duct of the sweat gland passes, becomes suddenly occluded, no sweat can pass, and the surface remains dry. The same result, dryness of the surface, may be caused by swelling of the epidermis from prolonged soaking in water, or from the infiltration of chronic eczema.

Below this, again, is the stratum granulosum, or layer of Langerhans, which contains the peculiar substance called eleïdin, to which attention has of late been directed. Unna has named this kerato-hyaline. It consists of oil-like granules contained in the cells of the deeper epidermic layers, and in those of the mucous membranes. Unna regards it as connected with keratinization, while Ranvier is of opinion that the cornification of the hair shaft and that of the nails is completed without any participation on the part of the eleïdin, while it has nothing to do with the lubrication of the horny cells.[1]

[1] *Monatshefte für praktische Dermatologie*, No. 13, 1888.

Ranvier, too, concludes that in scaly, vesicular, or pustular affections of the skin eleïdin is not present in the positions occupied by the scales or vesicles, while in epithelioma, in all forms of papillary hypertrophy, and under some other circumstances, it is increased in quantity.

The granular layer in which it is met with more particularly is made up of spindle-shaped granular cells, laid lengthwise to the free surface. Being unprovided with spines, these cells are but insecurely attached, and thus form the stratum of least resistance. Hence, when fluid, in consequence of irritation, is poured out, into, or among the cells of the rete in too great abundance, the resistance of the horny layer above causes a separation to take place at this level, and a blister, larger or smaller, results. The deepest layer of all is the vegetative or mucous proper, one which plays a most important part in many diseases of the skin. It is composed of cells with distinct nuclei, and among which three varieties can be traced. Those nearest the corium are columnar, and are the active cells in producing the layers above. In them and in the next rows the pigment resides, which varies somewhat with race. Those cells, only slightly tinted in the white races, are much more intensely so in the dark, and several layers of cells are stained in them. Both heat and light tend to increase the colouring matter in the skin, hence the bronzed face of the soldier who has been exposed to the Indian sun, and the brown patches on the front of the shins of those who stand for hours before glowing fires, though protected from the reflection by their clothes. Above these cells are others, many sided, and near the granular layer they resemble it more closely. All of these cells are provided with spines or prickles which connect them together, and show that these are in a condition of active growth. These spines are either a portion of the fibrous structure of which, according to Klein, the cells are made up, or are remnants of the cell substance which have not been separated when the cells themselves in process of formation become in other respects in-

dependent. Besides the prickles, the cells are united by a transparent albuminous cement. As a whole, the rete Malpighii sends prolongations down between the papillæ of the corium, and since the rete is formed in the fœtus before the latter, the papillæ may be said to be caused by these finger-like projections being pushed down, as it were, into the plastic mass of the true skin.

The epidermis is continuous with the inner layer of the hair follicles, and tubular prolongations sink down from it into the sweat glands. These attachments, as well as the hairs which pass up through it from the corium, prevent the cuticle from sliding bodily at the level of the granular zone over the subjacent parts, as it would otherwise be apt to do when lateral pressure, or friction, was exercised upon it.

The cuticle serves to veil to a greater or less degree, in proportion to its thickness, the rosy hue of the vascular corium lying below, acting like a plate of ground glass.

The surface of the true skin is bounded by a fine basement membrane, not always demonstrable. The upper part is marked with prominences called papillæ, arranged linearly. These serve to increase the superficies of the corium, and to bring the nerves of sensation which terminate in them, as touch corpuscles, etc., nearer the surface.

The corium contains many structures, but the basis of the composition may be said to be white fibrous and elastic tissue. The relative proportion of these depends somewhat on the necessity there is in the part for stretching or resistance. Thus the white fibres are more abundant in the sole of the foot, where resistance is most needed; the elastic more numerous over or near a joint. The corium in structure resembles felt,—fine fibres arranged in a meshwork, tough yet yielding. Within this the blood-vessels branch and divide with ease, and at the same time are sustained and separated. The network is delicate and close on its external part, where it underlies the mucous layer; looser and more open deeper down, where the roots of the

hairs are embedded in it. The openness of texture of the deep portion gives the secreting part of the glands room, permits the skin to move as a whole, and it is in this part, and below it, that water accumulates in dropsy. Migratory cells and connective tissue corpuscles are found in the corium.

The thickness of the corium, as of the epidermis, varies considerably in individuals, in the two sexes, and in different parts of the body; and the amount of resistance which these offer to irritants influences considerably the liability of the person or part to special lesions of the skin.

Beneath the cutis vera, and separated from it by no very distinct line of demarcation, lies the subcutaneous connective tissue,—a loose, open network of fibres. In this are embedded the masses of fat which pad, protect, and round the figure, and which help in maintaining the pliancy of the skin. This fat, fluid at the natural temperature of the body, is contained in cells with a very fine wall. This envelope and its nucleus seem to be permanent structures, for in cases of emaciation the fatty material becomes absorbed, but the cell wall and nucleus remain; and in the cell, when *embonpoint* is restored, the fat re-accumulates. In general, the skin in well-nourished persons is smooth and clear, while emaciation, from whatever cause arising, deprives it of its lustre, and the surface at the same time assumes a dark hue, owing to an alteration in the keratine. The fat cells are aggregated into lobules, round and through which capillary blood-vessels inosculate, columnar prolongations, too, originally described by Collins Warren,[1] pass vertically upwards to the basis of the hair follicles, and contain within their structure the coil of a sweat gland.

The skin is richly supplied with blood, and the vessels form three important networks. One of these surrounds the glands of the skin, and ministers to their nutrition; another is arranged in a horizontal manner in the subcutaneous tissue; and a third, also horizontal and very fine, lies at the bases of the papillæ,

[1] *Boston Med. and Surg. Journ.*, 19th April 1877.

and sends loops into these. So complete is the blood supply, and so sensitive is the skin, that a fine needle cannot be passed into it without causing pain or drawing blood. The two horizontal layers of plexuses have not very many intercommunicating branches, hence, as many diseases of the skin spread along the vessels, those which commence on the very surface—as some forms of erythema or superficial eczema—do not for a time implicate the entire thickness of the skin. Another point in the arrangement of the vessels is also peculiar. Each twig as it ascends branches on all sides, and at the periphery of its distribution the capillaries of each area inosculate. At the point of union of such areas the skin is less vascular, and this has an influence on the configuration of some eruptions, as some forms of lupus.

Lymphatic plexuses also exist abundantly in the skin, and communicate with the interfascicular spaces by true stomata. Under various circumstances lymph accumulates in the skin, but the relations of the lymphatics have not been precisely made out.

The nerves of the skin are both of the medullated and non-medullated variety. They convey the sensation of contact with external objects to the sensorium, of pain, indicating the necessity of protection, and they control its nutrition. Though mainly found in the corium, the finer filaments have been traced as far as the second or third row of cells of the rete. They are also supplied to the hair follicles and sebaceous glands. Some end in the tactile corpuscles. The vasomotor nerves exert an exceedingly important influence over skin diseases, since we see congestion so readily induced, of which the physiological act of blushing is a familiar instance. Paresis, or loss of tone in the vessels of the skin, is a constant feature in certain skin diseases, as acne rosacea.

Both striated and smooth muscles are found in the skin. The voluntary muscular fibres are, however, only met with in certain localities, as the face, where they aid in determining the

finer shades of expression. More important as regards the well-being of the body are the involuntary muscles. These are not directly under the influence of the will, but contract and relax in response to alterations of temperature, or to mental states, as fear, which causes their contraction, and blanches the face; or shame, leading to their relaxation, which permits an overfilling of the vessels of the skin, and the tell-tale blush appears.

Those involuntary muscles are arranged in various ways. Some obliquely, which, when they contract, compress the component parts of the skin together and make it thinner. Some lengthwise, at the bases of the papillæ: these check or regulate the outflow of perspiration. Some to the hair glands, embracing the sebaceous follicles: these, when they shorten, make the hairs stand up and squeeze the oil from the oil glands, thus preventing it from drying up, and so choking the apertures.

When the surface of the body is exposed to cold, these little muscles contract in all directions, and, aided by the muscular fibres of the blood-vessels themselves, which act in concert, lessen the amount of blood in the skin. The production of sweat is at the same time diminished, and the evaporation from the surface being reduced, the natural heat of the body is maintained. When, on the contrary, we are exposed to heat, either from the sun's rays, or, what is practically the same thing, when we exert ourselves and thus become warm, these muscles relax, allow more blood to flow to the surface, the sweat glands act with increased energy, the surface becomes moist, and this dampness in drying cools down the exterior, and maintains the uniform temperature of health.

Implanted in the skin at various depths are three species of glands. One of these provides sweat or perspiration, another an oily material, and a third hair.

The sweat glands consist partly of a coiled-up tube lined with secreting cells, and placed deep down in the subcutaneous areolar tissue, among the fat cells; partly of a long duct also

lined with cells, leading upwards from the coil, and pursuing a wavy though nearly vertical course; partly of a tunnel without any proper walls, piercing the epidermis, and where the horny layer is thick, running through it spirally. The lumen of the duct and tube is generally distinct. The openings of the sweat glands, which are set with considerable regularity, can be seen, for example, on the points of the fingers by aid of a magnifying glass, between the ridges which occur there. These are popularly known as the pores of the body, yet it does not appear that the mere number of the sweat glands in any particular locality absolutely regulates the amount of sweat poured forth from that part. Thus, though the face, neck, and throat are less liberally supplied with sudoriferous glands, they sweat more readily and freely than do the palms of the hands, which are much more fully provided, do, except under morbid conditions. The explanation of this probably lies in the greater thickness of the corneous layers in the last-named locality. The total number of the sweat glands has been estimated at 2,300,000 by Krause, but this estimate is, there is reason to believe, much under the true number. They average a thousand to the square inch. They are closely surrounded by a plexus of vessels.

Sweat is a compound fluid, consisting largely of water with about two per cent. of solid matter, chiefly common salt, and some fatty matter. It is being continually poured out, but, though the openings in the surface are free, no sweat can, when the body is at rest and not too warm, be seen to issue from them. This is due to the spiral arrangement of the outer part of the duct, by means of which the perspiration soaks the very exterior of the horny layer where the cells are becoming loosened, and keeps the skin pliant and moist. It is imperceptibly exhaled from the surface, constituting what is known as the "insensible perspiration." The total amount of watery fluid which thus escapes by the skin has been calculated at two pounds or pints daily. This is largely increased by exercise, heat, etc., and bears in general a direct relation to the amount given off by the

kidneys and lungs. The reaction of the sweat is as a rule acid, but this may vary. In health, when profuse, it is less acid; in rheumatic fever it becomes intensely so.

Unna has brought forward evidence to show that the office of the coil glands is to impart unctuousness to the skin. In his view the oily portion of the sweat is derived from the coil, or at least from the deeply seated part of the gland, where it is in relation to the subcutaneous fat,—the watery from the straight part in its course through the corium and rete. This explains the harshness of the skin experienced more or less by all in winter, and especially during north and east winds. When such prevail, the perspiration is lessened, the outer layers of the epidermis are imperfectly lubricated, hence the corneous layer splinters and becomes rough. Glycerine, owing to its attractive power for water, if applied in a dilute form, relieves, and the employment of over-fatty soap for washing aids in lessening the tendency so to suffer.

The best way in which to understand the sebaceous glands and their relation to the hair follicles is by bearing in mind that both are originally formed by a folding in of the skin. The sebaceous glands arise from an inversion of the rete mucosum. The basement membrane which separates the rete from the corium forms thus the envelope of the sebaceous gland, the rete cells becoming secreting epithelium. These glands, which are situated deeper than the corium, are in general appendages of the hair follicles, and open into them at that part where the neck becomes narrow. Sometimes, however, they open on the free surface of the skin. The small lanugo hairs seem as if dependents of the sebaceous glands, while the converse is the case with the larger hairs, which have two or more sebaceous glands attached to them. The secretion of the sebaceous glands, which is elaborated in the cells and set free by their rupture, consists of an oily material, the office of which is to lubricate the hairs. In some localities this secretion has a strong and peculiar odour, as in the axilla, where, however, the perspira-

tion is also very abundantly secreted, and may contribute, or on the corona glandis, where the smegma possesses a very penetrating odour. In health the secretion is small. Those muscles of the skin known as the *arrectores pilorum*, which, attached to the lower part of the hair follicle, ascend obliquely, and are inserted in the upper part of the corium, embracing the sebaceous gland in their course, play an important part. By their contraction they cause the fluid sebum to be forced out. Where the glands are large and the hairs small, as at some parts of the face, the back, and chest, the glands are imperfectly acted on by these muscles, their contents are not regularly expelled, and this leads to comedo and acne. The spasmodic contraction of these muscles gives rise to cutis anserina.

Pursuing the same mode of explanation, we form the simplest conception of the hair follicle by imagining that, as in fact really occurs, a pouch has been formed in the skin by the inversion of all its layers. The horny layer, the rete mucosum, the basement membrane, the connective tissue making up the corium, and the muscular bands, are all represented, while the papillæ of the corium are replaced by the hair papilla. The base of the hair follicle may be placed in the true skin, or in the subcutaneous cellular tissue, as the hair which is to grow from it is a fine downy one, or strong and coarse. In all situations, however, the follicle becomes narrower and less in calibre as it approaches the surface. Its narrowest part, called the neck, is just at the level of the papillary layer of the corium. Above this it again slightly expands, and opens directly on the surface. The follicle is set at a slight angle as regards the perpendicular, and may either be straight or curved, the hair issuing from it taking in the one case a straight, in the other a curved direction. The outer coat of the hair follicle is of fibrous tissue, and is derived from the corium. The second is probably muscular, and may originate from the plain muscular fibres of the true skin; the third is structureless, the basement membrane which underlies

the rete mucosum. Within these are the two root-sheaths of the hair; the outer is the rete mucosum, a cellular layer, which becomes less distinct as we descend low into the follicle. The inner is the horny layer of the epidermis, which enters the follicle at its upper part, closely invests the hair, and at the level of the hair papilla turns over, and most likely is transformed into the hair itself. It is this inner root-sheath which is seen as a whitish tube attached to a hair which has been forcibly drawn from its follicle. The formative papilla is somewhat club-shaped, and is well supplied with blood, and very likely with sensitive nerves also, since pain accompanies the extraction of a healthy hair. I have said the hair follicle is originally formed by an inversion of the layers of the skin into its plastic substance. This process of inversion does not cease with extra-uterine existence. The conversion of downy hair on the scalp of an infant, or on the cheeks of a youth, into long and strong hairs, is merely a further extension of the same process. The follicle as a whole descends; in the loose tissues below it has more room and a fuller blood supply, richer, too, in hair-forming materials, and thus a larger and more pigmented hair is provided. Just as occurs in the eruption of the teeth, these advances in growth take place at intervals, not continuously, the development of other portions of the organism providing the means and furnishing the stimulus for their occurrence.

The hair elaborated by the follicle and springing from the papilla may be looked on as the horny layer of the epidermis, which, instead of being spread out as a thin protective sheet, is compressed by the exigencies of its mode of growth into a rounded or oval thread. The hair is implanted on the papilla, which is received into a dimple at its base—the hair-bulb. This, loose in texture, is composed of nucleated cells, resembling those found in the deepest parts of the rete mucosum. It has a speckled appearance, from the presence of minute pigmented granules. When a hair is extracted, there are seen transverse bands on the bulb, which in breadth somewhat approximate to

that of the mycelium of the fungus of ringworm. These are the hyaline inner root-sheath, which has become pushed down and wrinkled when the living hair was pulled out. As the hair advances outwards it becomes condensed and firmer, and when the hair emerges from the skin it consists of a bundle of fibres variously coloured in different individuals, bound together by its cuticle, a series of flat scaly plates, the lower of which always slightly overlaps that next above. The filaments of which the shaft of the fully formed hair consists are made up of long, diffusely pigmented, and faintly nucleated cells. Between these there are also rows of pigment granules, at least in coloured hair, which vary in hue, according to the shade of the hair. A hair whose growth has not been interfered with ends in a tapering point. Some hairs, not all, possess in their centre the medulla or pith. This is seen as a broad coloured band, somewhat broken in outline, which occupies the axis of the hair, and consists of polyhedral cells containing granules of fat. Very small air vesicles are also found in the medulla.

The presence or absence of the medulla has been shown by Unna to mark a peculiar variation in growth in hairs. Hairs which exhibit it are still attached to and growing from the papilla, and are termed papillary hairs. But in many cases the hair after an uncertain period separates from the formative papilla at the deepest part of the follicle, and ascends in the interior of the hair gland. At the same time it retains its connection with the prickle cell layer of the follicle, called also the external root-sheath. The ascent of the hair ceases when it has reached that part of the follicle just below where the sebaceous gland opens into it. The hair loses its dimple-like depression, and its root becomes more brush-like, but its growth is maintained by the cells of the prickle layer, which become continuously transformed into the fibres of the hair shaft. This hair Unna terms a bed hair, as contradistinguished from a papillary hair, and such a hair in the part produced from the prickle cells contains no medulla: it is less firmly attached

than a papillary hair. After an indefinite time a process is pushed down from the prickle cells, and becomes in time a new papilla, from which a hair is formed, which displaces the bed hair. The original papilla wasted away when the hair in its ascent no longer drew its nutrition from it.[1]

One important inference can be drawn from this,—that not only the papilla, but all the interior of the follicle, as far as the opening of the sebaceous gland duct, is capable of producing hair, being in this analogous to the nail matrix. The value of this will be seen when we speak of the artificial destruction of hair, for it is evident that in so doing, not merely must the papilla be destroyed if the hair is a papillary one, but the lining of the follicle itself, in case it is a bed hair.

The function of the sebaceous gland has been stated as that of oiling the hair, but it is evident that it can only do this to a limited extent. The researches of Liebreich on lanoline have thrown new light on this subject. From these it appears that a peculiar cholesterine fat is secreted by the hair itself, which keeps it pliant, possessing a specially penetrative power in relation to horny tissues. This raises hair into a much higher position than formerly. It must be regarded as a living structure, whose connection with the body is much more than a mere mechanical one. Like the tooth, it is an organised structure, which has feeble yet defined power of elaboration. The sudden blanching of the hair is thus not so miraculous an occurrence after all.

The overlapping of the cuticular scales serves several purposes. One of these is, that as the hair grows, the projecting edges of these plates scraping the sides of the tube surrounding the hair, the follicular walls, carry before them any effete particles which have become detached from the inside of the pouch, and also the oil secreted by the sebaceous gland which opens into it. Thus the hair literally sweeps out its own follicle. When the hair has become free on the surface, this imbrication

[1] Ziemssen's *Handbook of Diseases of the Skin*, p. 33 *et seq.*

from below upwards permits us to brush dust, etc. from the root to the point, and also favours the conveyance of perspiration or water from the surface of the body. It is in consequence of this same arrangement also that so little comparative tangling of the hair, when allowed to hang freely down, occurs by day or night, while again, when hair becomes reversed this causes interlocking. The use of hair seems to be to preserve from injury and to keep the parts on which it grows warm. How completely it does so every one knows by the feeling of cold experienced after having the hair cut.

Hairs are pretty universally distributed over the body. They are, however, absent from some localities, of which the palms, and soles, and the eyelids are the chief. They are set in what are termed whorls or spirals. These are not in general very conspicuous on the trunk, unless the individual be specially hirsute. The spiral can be well seen on the crown of most boys' heads. Hairs are not usually quite round, but this is in some degree a question of race: the rounder the hair the straighter it grows, the more oval, the greater the tendency to curl. Generally the lighter the colour of hair the greater its abundance, as calculated by the number of individual hairs, but the fairer the hair the finer also. It is the generally held opinion that each hair has its own definite period of life, but according to Lassar all loss of hair is pathological. There is nothing, he believes, of the nature of moulting natural to man.[1] Some persons shed their hair much more freely than others. The length the hair attains has some relation, too, to the state of health. A calm easy life, a placid disposition, and a well-nourished body, offer a combination of circumstances most favourable to the production of long hair. Still, we sometimes see an excessive production of hair in phthisical persons. When hairs fall off naturally, or are violently pulled out, a fresh one is produced from the same papilla, or from a new papilla adjoining the old one. The hair grows more rapidly in youth than age; indeed, as age advances

[1] *Therapeutische Monatshefte*, 1889.

the hair becomes, if not thinner, at least shorter. It grows, too, more rapidly in summer than in winter. The hair of the head grows on an average half an inch a month. When the hair is kept moderately short, frequent cutting is said to promote its growth, but short hair is less dragged on in dressing it than long, its root can be kept free from accumulation round the mouth of the follicle, and the actual weight of the hair is less, hence it may not be the cutting, but the result of keeping it short, which promotes its growth.

The nails are composed of a horny cuticle, and tend to give firmness to the point of the finger, and extend the tactile expansion of its tip. The nail is attached on its posterior aspect and below, while at its sides it is received into a fold of the skin, and presents a free margin in front. Externally it is smooth and glistening, of a rosy pink colour, due to its permitting, from its transparency, the vascular surface below to shine through. A small portion of the nail, near its root, called the lunula, is whiter than in front; this is partly due to the structure of the nail here being more opaque, partly to the subjacent matrix being less vascular. This represents the anterior margin of the nail matrix. The upper surface of the nail plate is produced by the deepest portion of the matrix, the under surface by the lunula, the substance of the nail by the intervening space. The growth of the nail is maintained by a constant succession of cells at the root, it does not appear to receive any increase from the nail bed over which it slides, and to which it is firmly attached.

The tissue of the nail exhibits an active growth, which considerably exceeds the waste which takes place at its free edge; it would seem that this growth attains only a certain limit, as is seen in persons who, like the Chinese, do not cut the nail. The process of renewal takes place more rapidly in childhood than in old age, in summer than in winter, and in the hands than the feet.

CHAPTER II.

THE HYGIENE OF THE SKIN.

The conditions of life under which a highly civilised nation exists, exert an influence on all the structures which combine to make up the organism, but perhaps manifest their modifying power most plainly on the skin. Not merely on its surface, in the delicacy of its tints seen on those parts exposed habitually, as the face and hands, or in obedience to fashion, as the arms, neck, and bosom, but in a diminution of its natural unctuousness, a lessening of the hairy covering, and the production of a texture, finer, thinner, and not so resistant. Food, drink, environment, and occupation all exert their effect; race and heredity stamp their mark on the integument, while various diseases, of which smallpox and acne are familiar examples, modify it permanently in whole or in part. The proper care of the skin, therefore, is an important factor in the prevention of some cutaneous disorders, the amelioration of others, and while it may be impossible as yet to transmute a coarse into a fine skin, or to transform a brunette into a blonde, still much can be done in the way of rendering natural or acquired defects less observable by a judicious course of management.

To deal with the nutrition of the skin from beneath does not fall within the scope of the present work; observance of the general laws of health as to the ingesta, whether liquid or solid, and as to the maintenance of the body in an equilibrium with respect to all its functions, embraces what is needed. Yet there

are certain points which may be briefly alluded to. Thus while the abuse of alcohol causes in some, at first temporary, and eventually permanent, dilatation of the cutaneous capillaries, Mr. Hutchinson has brought evidence to prove that tea induces coldness of the hands and feet, probably from occasioning their contraction. The disuse of fresh vegetables leads to sallowness of the complexion, finally to scorbutus, and the excessive employment of sugar may favour the occurrence of boils. It is, however, to the local and external treatment of the skin that attention will be chiefly directed.

And, first, it is necessary that the integument as a whole be kept clean, a proposition apparently superfluous, were it not that on this point the most various opinions popularly prevail. There are many who think that though the face and hands require daily or more frequent ablution, the rest of the body can be preserved in a perfectly sanitary condition by a weekly bath. There is a numerous class who go further than this, and regard it as wholly unnecessary to wash more than the face, hands, and feet at any time. There is no need to allude to those individuals in whom hydrophobia is so advanced that they never wash, but from such the progressive rise in wholesomeness is uninterrupted. On the other hand, there are some—a small proportion comparatively—who carry detersive measures to an extreme. The infant, who needs it least and whose skin bears it worst, is unmercifully dealt with in the matter of washing; the adult, exposed habitually to agencies which soil the surface, is supposed to be able to dispense with it. Throughout life the external layers of the epidermis are being continually shed, the sweat and sebaceous glands extrude their secretions in greater or less amount, while particles of dirt from without attach themselves to the surface, necessitating removal by artificial means, else the glands become clogged, and results to be hereafter explained ensue. The more active the life, and, in consequence, the more abundantly the emunctories of the skin discharge their secretions, the less need is there of washing from

the point of view of influence on the health of the individual himself; but comfort and consideration for others demand cleanliness, and the habitual use of the bath is year by year becoming extended over a wider area, and penetrating deeper and deeper into the strata of society.

Baths, with respect to their effect on the skin, may be divided into three classes—1. Tonic; 2. Sedative; 3. Cleansing. To these some would add a fourth—viz., Alterative—but the term is indefinite, and its scientific value too vague to admit of its retention.

1. *Tonic Baths.*—These are essentially cold ones, the thermic coefficient being a relative one. Any degree of temperature beneath that of the body feels cold to it. This is not perceived to anything like the same extent when the surface, denuded of covering, is exposed to air at rest, as it is so soon as immersed in water of precisely the same degree of heat, since water is a much better conductor of heat than air. The power of reaction in each individual must therefore be studied, so as to determine how far this tonic effect should or can with safety be carried. One inured to it, young and in robust health, can stand for a few seconds immersion in water near the freezing point with positive advantage, and certainly without risk, but as a rule the temperature of the cold bath should range from 60° to 80° Fahr., a medium temperature of 62° being an excellent average one.

The regular alternation of the seasons, and the occurrence of day and night, are to be regarded as indications that human beings as at present constituted are calculated, as a matter of course, to endure variations of temperature, and such are indeed for them, as for plants, almost necessary for their health, possibly for their continued existence. But man, by clothing adapted to each portion of the year, by fires, and by a selected dietary, has in a measure rendered himself independent of heat and cold, and as a consequence acquired a sensitiveness to change of temperature which lays him open to many ailments arising

therefrom. The regulating muscles of the skin, like many of those throughout the body—as, for example, of the foot—have become impaired in their efficiency from disuse, have degenerated into a rudimentary condition. It is the object of the cold bath to recall these to the fulfilment of their proper function, and it is in this way that the cold bath acts as a tonic.

When water considerably below the normal temperature of the body is brought suddenly in contact with the surface, a contraction of the cutaneous muscles and pallor of the skin ensues, manifested by a sensation of shivering and chilliness. The blood thus displaced retires to and distends the vessels of deeper parts, and hence danger might arise from the rupture of some weakened capillary or disturbance of function, owing to blood stasis. Hence the weakly, the old, and the very young must be tenderly dealt with in the matter of baths. The weakly for the reason indicated; the old from the inelasticity of their vessels, and their deficient capacity for reaction; the young as having less heat-producing power, and because they are unable to interpret their sensations. The degree of cold employed should therefore be regulated in accordance with the sensitiveness of the bather, and the extent to which he has habituated himself. States of exhaustion after fatigue of any kind, or after recovery from illness, are also conditions in which the cold bath must be used with circumspection, or not at all. The duration of exposure to the cold water must be calculated by seconds, and while sufficient to produce a decided effect, must not be protracted till sensations allied to pain are experienced. If a proper temperature has been selected the effect should be, first a distinct sensation of chilliness on immersion, followed in course of a few seconds by an apparent lessening of this feeling, till the water no longer seems cold at all, this point reached it is time to emerge from the bath. Relieved from contact with the water, the bather should at once, or at least very rapidly be conscious of an agreeable glow or a feeling of warmth, and this, which is accompanied by a reddening of the surface, should be promoted

by friction with a towel more or less rough, to suit the individual skin, and followed by hasty dressing. It is clear that the whole of the body should be submitted to the action of the cold water, so that there be no unequal distribution of the blood. The hair, however, in women need not be wetted. Anæmic persons bear the cold bath badly, and should not indulge in it till their anæmia, from whatever cause due, has been remedied. Some persons become blue or dusky after a cold bath, and complain of a persistent creepiness or chilliness. In such reaction is imperfect; for them water more nearly approaching in warmth that of the body must be temporarily, at all events, employed. Others feel languid and sleepy; here reaction has taken place, but the nervous centres have been depleted, and the shock must in like manner be lessened. Such individuals are commonly those who tend to become drowsy after a meal. To those unaccustomed to the cold bath initiation must be gradual, the warmth of the water being diminished day by day, till the limit corresponding to the personal equation of temperature is reached, and when found this should not be exceeded. The simple sponge bath is the mildest form, next the plunge, and last the shower. Water, as air, when in motion has a much more energetic action on the skin. The addition of salt to the water increases its power of calling forth reaction, partly by raising the specific gravity, partly because the saline particles cling to the skin, excite the terminal nerve filaments, and occasion augmented reflex movement. Hence the drowsiness so frequently noticed by sea-bathers during the first few days or weeks of their residence at the coast. On the shores of Scotland, or other northern country, the tonic influence of sea-bathing must be but moderately submitted to; no long stay in the ocean is, as a rule, permissible; dressing should be quickly performed, and a smart walk indulged in thereafter. It is evident from what has been stated that the cold bath should be partaken of in the morning, or if in the forenoon, at a sufficient interval after and before any meal as not to interfere with digestion. The later in the day the less

beneficial does the cold bath become. Its object is a rousing and invigorating one, and this is most needed and best borne after the night's rest. The value to health of keeping the skin toned up by cold baths may be further emphasised if we bear in mind that while in fever infection is usually conveyed from the sick to the sound by the medium of the mouth and air-passages, many examples of the inflammatory ailments are produced by interference with the action of the skin, by "a chill" as it is popularly called, and might have been often avoided had its heat-regulating function been in better trim. We catch cold much less readily in the country than in town, partly because we are in better and more vigorous condition, partly because there is not the same difference in temperature between our living rooms and outside. Soldiers and volunteers when camping out are notoriously little liable to catch cold, even though wet through, and without the means of having a frequent change of dry clothes.

2. *Sedative or Hot Baths.*—Such are those varying from 95° to 98·6°, the normal temperature of health. It is doubtful if in ordinary circumstances the latter named figure should ever be exceeded, for in water hotter than this a febrile range is entered on and maintained so long as immersion is continued. There is no denying that many persons take baths considerably warmer with no apparent ill effect, but in some instances nausea, or various peculiar precordial symptoms supervene, and all the good obtainable can be had safely within the limits named. It must be borne in mind that the object of the warm bath is one quite distinct from that aimed at by the cold. They may be used after a fatiguing walk, after long exposure to rain and cold, or in feverish states. By their employment the blood is determined to the surface, and internal organs are relieved. The circulation round the glands is promoted, and their secretion is favoured, while the nerve terminations in the skin are at the same time flushed, and a soothing effect on the entire organism is produced. This corresponds to the excessive reaction noted as occurring in some cases after a cold bath, hence

drowsy sensations may arise while the hot bath is being taken, and must be guarded against. Baths, therefore, of a high temperature are to be employed with discrimination and not prolonged unduly. It is plain, however, that the warm bath at least, and the minor degrees of the hot, may be continued without injury for periods of time much more protracted than is permissible with the cold; in all cases, can be taken leisurely. After the hot bath a reaction, the converse of that which occurs subsequent to the cold, ensues: the skin contracts, because evaporation from its surface is augmented, and a sensation of chilliness is soon experienced. Thus, the proper time to take a hot bath is in the evening, when the bather can at once retire to bed. If indulged in at some other period of the day, a cold spray or sponge should be taken after the hot to tone up the skin, or the bather should rest for a time in the recumbent position, covered with a rug, till the equipoise which has been rudely disturbed has been slowly regained.

3. *Cleansing Baths.*—The baths already mentioned act to a large extent mechanically, stimulating function by mere impact, or from their thermic power; but they exert comparatively little influence on the dirt which attaches itself to the surface. To get rid of this, chemistry must be called to the aid of even the purest water, and in the familiar article known as soap we find the necessary agent. Soap is a compound of oil and an alkali, with a variable quantity of water. Soaps may be classed as alkaline, neutral, and over-fatty. The first contain an excess of unsaponified alkali, are more or less caustic, are harmful or even destructive to the skin, and unless for special medicinal objects, are inadmissible as cleansing agents. In the second the fat or fatty acid and the alkali are so exactly balanced as to give neither an acid nor an alkaline reaction. The alkali in such is for the most part soda, which makes a hard soap, and the group embraces the best and purest toilet soaps. The over-fatty is a special and peculiarly valuable variety, the original idea of which we owe to Dr. Unna, but the details of its manu-

facture were worked out by him with the aid of Dr. Mielck, Herr Beiersdorf, and Mr. Douglas—a physician, an apothecary, a chemist, and a soap manufacturer freely interchanging their opinions to perfect the conception. This soap, which I was the first to bring under the notice of the profession in this country, is both a soda and potash soap, and is extremely tender and delicate. Its main characteristic consists in its neither being alkaline nor neutral, but in containing a slight excess of unsaponified fat.[1] It cleanses the skin perfectly, yet, from not depriving it of its natural unctuousness, it leaves the part washed with it soft, cool, and pliant. Improvements in its manufacture have been effected since its first introduction, so that the unsaponified fat does not now tend to become rancid in keeping, as it was originally somewhat prone to do. It is a beautiful white soap, which on being used gives off an agreeable perfume. Still, it is not like ordinary alkaline soaps, which improve when kept, because they sweat out the excess of soda, which appears as a white powder on the cut or exposed surface. On transparent soaps this can often be seen as a fine bloom-like deposit. Unna's over-fatty basic soap, the term by which it is known, is best fresh, and should not therefore be purchased in large quantity. A full account of this soap, its constituents, and the relative proportions of each, will be found in Volkmann's *klin. Vorträge*, No. 252. While it can be employed with cold, it harmonises best with warm water, and forms the very best shaving soap in existence. It does not lather very freely, and this is by some quoted as a disadvantage; but while the froth mechanically removes the dirt a short distance from the skin, it really has no practical use. Indeed, to make a soap lather, since this is a feature the public seem desirous to have in the soap they commonly use, it is customary to incorporate with the other fatty materials some cocoa-nut oil, because to saponify cocoa-nut oil a stronger alkaline ley is required, which tends to dry the epidermis and render it brittle, so that a real

[1] *British Journal of Dermatology*, June 1890.

detriment arises to gratify a popular prejudice. The best soap for the skin ought to consist of pure animal fat for its oleaginous component, to which a small proportion of olive oil may be superadded.

"The rationale of the cleansing action of soap is as follows: the dirt adhering to the body is mostly composed of dust and other extraneous matters, combined with the perspiration and the greasy excretion from the skin. When ordinary hard soap is brought into contact with water, it is decomposed and gives up part of its soda, which unites with and removes from the skin the unctuous dirt thus rendered miscible in the water used for washing. As the more the liberated soda is diluted the less will be its caustic action on the skin, it is clear that a plentiful supply of water should accompany the use of soap in personal ablution."[1] The disintegration of the soap takes place in intimate contact with the surface of the integument, thus the presence of a very slight excess of unsaponified fat in the soap employed, will promptly aid in preserving the epidermic cells which constitute the horny layer from being attacked by the liberated alkali.

The purer the water the more perfect the action of soap. Hard water owes its character to the presence of lime or magnesia, chiefly the former; and the lime, forming an insoluble compound with the fatty acids set free by the decomposition of the soap, seriously impairs its beneficial effect as a detergent, robs the skin too completely of its natural oil, and leaves the epidermis harsh, dry, and brittle. Hard water is rendered softer after boiling, should the hardness depend on carbonate of lime, because the carbonic acid, which keeps the lime dissolved, is driven off during the ebullition. Extremely pure water can be obtained by condensing the steam from the waste pipe of a high-pressure boiler, as suggested by Mr. Morris, if rain or river water be unattainable. It is especially when hard water must be used, or in the case of persons with tender skins, that

[1] Mr. Malcolm Morris in *The Book of Health*, p. 887.

Unna's over-fatty soap is so valuable, and the same may be said of children whose epidermis is delicate. Here the excess of fat in the soap partially replaces that used up by the alkali set free in the decomposition of the soap, and the lime in the water, and preserves the pliancy of the horny layer.

The ultimate object of the cleansing bath, an aim which should in all cases be kept clearly in view, is to remove any particles of epidermis which have served their turn and are ready to be cast off, to free the mouths of the cutaneous glands, and to leave the surface of the body smooth, velvety, and entire. The amount of friction to be used, and the frequency of washing, must therefore be regulated by the occupation of the person himself, by the degree of resistance possessed by his skin, and by its texture, be that thick and sluggish, or thin, lacerable, and active. Frequent washing with soap robs many skins too completely of their normal unctuousness; the horny layer of the epidermis has not time to attain its perfection ere it is thinned down afresh. This is one, and a pretty common, cause of eczema.

A special development of the cleansing bath is that known as the Turkish, and the leading features which distinguish its mode of action may be referred to. By exposure to increasing temperatures, aided by copious draughts of water, while resting in a recumbent posture, abundant perspiration is induced; this is followed by thorough cleansing and shampooing with the assistance of soap, succeeded by a process of gradual though rapid cooling by the agency of a fine spray, whose heat is constantly diminished to nearly icy coldness. Finally, by prolonged rest in an apartment moderately heated, the equilibrium of health is restored before the bather goes into the open air. It is evident that in this way not only is the surface cleaned, but the glands, stimulated to excessive activity, are made to flush their ducts from within. The Turkish bath is both a powerful detersive one and a tonic, but it cannot be repeated frequently with impunity, and though employed by some to

serve in place of exercise in the open air, it is but an inefficient and poor substitute. Nor does it suit every one; to some it is positively dangerous. Unless free perspiration can be produced in the hot room within a reasonable time, unless a feeling of lightness and general well-being succeeds it, it is prejudicial.

While the cold bath in its simple form, or with the addition of salt should be habitual—part, in fact, of the daily toilet—the warm bath and the Turkish must be held to be occasionally, and only occasionally, needed. Nor is soap to be used for all parts of the body every day. The hands, indeed, can scarcely be kept clean without it, though oatmeal and a nail-brush makes a fairly efficient substitute, but the face, in the case of those whose skins are delicate, had better be washed with plain water, which may, if desired, be used tepid. If in such persons it is necessary to use soap to wash with this should always be the over-fatty soap already mentioned, if the water is in the least degree hard. The soap washing should be done at night, as in this way the skin glands have time to recover, and the surface to regain the moderate unctuousness of which it has been deprived before it is exposed to air in motion and cold, which otherwise would be apt to render the superficial cells dry, and to cause minute fissures. The atrophic and shrunken skin of the old requires special care; it must be often washed, but warm water should be used, over-fatty soap, and it should be dried by means of gentle friction with a soft woolly towel.

One other point in connection with the care of the skin demands remark. It is the employment of powder for the complexion; is it harmful or not? The answer to this, in my opinion, turns on the object for which powder is applied. There are some tender skins with a thin and splintery epidermis which may be prevented from becoming rough and broken by the occasional dusting on of a simple powder, such as French chalk, or talc, with or without the addition of a little salicylic

or boracic acid, to which a little powdered paraffin wax may be added. But when powder is used habitually to impart the semblance of a healthy bloom to a face on which too much gaiety, hot rooms, late hours, ices, tea, not to hint in some cases at the consumption of other nerve stimulants or sedatives, have left their imprint, such medicated powders as may perchance contain preparations of mercury or lead are undoubtedly injurious. When, after condemning the application of powder and paint under the fallacious idea of enhancing her charms, Ischomachus tells his model wife, "Men regard a genuine complexion as most pleasing," the saying is as really true now as it was when Xenophon wrote it in Athens more than two thousand years ago.[1]

[1] *Œconomicus*, x. 7.

CHAPTER III.

SOME OF THE CAUSES WHICH REGULATE THE LOCALISATION OF SKIN DISEASES.

In order to place the proper treatment of any group of diseases on a satisfactory basis, two points stand prominently forward for consideration. One is the study of the distinguishing features and the natural course of each disease; the other the determination of the causes which induce it. Under this latter head a further subdivision is possible in the case of skin diseases. We are constantly tempted to form some theory which should explain why certain diseases are limited to special localities, which, again, in their turn, are avoided by others. It may therefore not be unprofitable to investigate into the explanations which have been given of these variations in distribution, and how far indications for prevention or for treatment can be based on them. There are four great divisions into which, one or another, we may place a large number of skin diseases. These are, as determining their localisation—

(1) The anatomical structure of the skin—its architecture, so to speak.
(2) The nervous supply of the skin.
(3) The occupation and habits of the individual; and
(4) The influence of protection or otherwise by clothing.

1.—The Anatomical Structure of the Skin as a cause of the Localisation of Skin Diseases.

While there exists a general plan on which the skin as a

whole is modelled, there are marked differences in the mode in which the component elements preponderate in particular regions. In some parts the entire skin is thicker or thinner than in others, as the epidermis bears a greater or less relation to the corium. The hair follicles are much more active and more strongly developed in some places and in some individuals, and the same may be said of the sebaceous and the sweat glands. These peculiarities, which constitute in most circumstances the strength of the economy, in others may be said to be sources of weakness. Take, for example, the thick dense layer of horny cuticle on the palms and soles,—were it not for this we could not walk with comfort; we could not ply any manual effort. For the maintenance of this thick cuticular layer abundant provision is in general made, and disease seldom attacks the palmar or plantar surfaces. Yet sometimes the nutrition becomes defective, it may be from an obscure gouty taint, as in neurotic individuals with chronic dyspepsia, when a slow indolent form of eczema undermines the cuticle, and now its very thickness and substantiality proves a weakness, and few varieties of eczema are more intractable than this. The blood-vessels, which are here more than anywhere else bound down and compressed, tend to continue permanently dilated. The sweat glands, which here have to take on the *rôle* of sebaceous glands as well, act imperfectly, and the palm or sole feels unnaturally hot and dry. The difficulty of maintaining equable artificial pressure in these localities, to replace that of the defective cuticle, is one of the reasons why our treatment of such cases is often so unsatisfactory. Though the eruption is not in all cases limited to these regions, yet it is very generally so; and when patches of eczema are found elsewhere, they are usually quite insignificant in comparison with those which affect the hands. In the management of such cases, therefore, we are compelled to take down the edifice, to soften or separate the thick epidermis, and when in this way we have reached the neighbourhood of the formative cells and the nutrient blood-vessels, to aid nature in rebuilding a more stable

structure. How this is accomplished will be fully treated of under the head of eczema of these parts.

We find another illustration of the same fact when syphilis in the early secondary period fixes on the palms. The eruption here is a modification of the papulo-squamous syphiloderm; and while this, as a rule, fades away after no very long duration, that portion of the eruption which affects the palms is apt to persist, and may indeed at the time be the sole cutaneous manifestation of the disease.

Another disease allied to eczema which attacks the hands is cheiro-pompholyx or dysidrosis; for, with some minor differences, these must be regarded as the same. Here we have a vesicular lesion exhibiting a peculiar recurrent tendency, which affects the palms and interdigital spaces. Like the dry form of eczema, this is met with as a rule in neurotic subjects.

Now the distance of these parts of the body from the central organ of the circulation, and in consequence the imperfection of their nutritive supply, exert important influences in originating and in maintaining disease there. When the horny layer of the epidermis is thin, its nutrition can be sustained; when it is abnormally thick, it breaks down in whole or in part. We meet with a condition affecting similar regions in the case of chilblains, and due to the same cause—lowering of vital action as a consequence of the distance of the part involved from the heart—and from the treatment which is often successful in them we can take a hint as to the management of dysidrosis and interdigital eczema. By hardening the tender epidermis by means of a coating of nitrate of silver, dissolved in spirit of nitrous ether, or by forming a protective sheath by means of a solution of gutta-percha in chloroform, to which five per cent. of salicylic acid has been added, we can, combined with suitable internal remedies, in many cases obtain a cure.

Quite different is the anatomical structure of the skin of the face, and in consequence the localisation of some diseases on it. Here the horny layer of the epidermis is extremely delicate and

thin, while the vascular supply is peculiarly abundant. Partly in consequence of this thinness of the horny covering, which thus exerts but an indifferent degree of restraining pressure on the venous radicals and capillaries beneath, partly because these minute vessels are largely influenced by the nervous system, more particularly through the sympathetic, they are liable to sudden expansion or contraction. The phenomenon of blushing, the overfilling of the vessels as a result of the ingestion of alcoholic liquors, and the blanching of the cheeks from fear or faintness, are all common evidences of this. At certain periods of life this regulating action of the nerves which should maintain the due degree of tension is apt to be disturbed through reflex action. There seems to be some pretty close relation between the uterine and ovarian sympathetic and those nerves of that system distributed to the face. In females, at the access of puberty, and at the decline of the menstrual function, this balance is occasionally disturbed, and a permanent as opposed to an occasional over-filling of these vessels takes place, determinating the condition called rosacea. It is possible that the habitual use of too hot water to wash the face with may have some share in the development of the dilated capillaries or "broken vessels," seen on the cheeks under such circumstances. Were it not, however, for the thinness of the horny layer in this situation, the anatomical structure of the skin is peculiarly well calculated to resist the expansive pressure exerted from within by the blood-wave. The felt-like formation of the corium, while it permits free branching of the vessels, deadens recoil by its elasticity. Above this are the prickle cells, separated from the papillary layer of the corium by a fine limitary membrane. The existence of this membrana propria can be demonstrated in some situations, and may be inferred to be present in nearly all. The cells of the mucous layer act as efficient buffers, aided perhaps by the spirals of Herxheimer,[1] and over them and under the true horny layer is the band of Schron. This consists

[1] *British Journal of Dermatology*, October 1890.

of cells so condensed as to assume the aspect of a nearly structureless belt, which must possess considerable tenacity and power of resisting expansive effort from within, and thus saves the horny cells themselves from being split from their attachments to each other. In this direction, then, the structure of the skin is most admirably adapted and designed to carry out its functions.

We meet with varicose conditions of the vessels elsewhere, but generally, if not exclusively, these dilatations affect the larger vessels; scarcely, if at all, the capillaries. This is because the thickness of the outer layers of the skin protects the smallest vessels.

There is a peculiarity of the skin to which little attention has been paid. This is the amount of stretching which the horny layer is exposed to from muscular movements, which tighten the skin over some subjacent bone. This is very well seen on the shin. Here the skin lies in pretty close contact with the tibia, comparatively little areolar tissue and fat, and no muscle, intervening. When the muscles of the calf contract, the skin becomes tightened over the ridge of the tibia, and the tension is most felt at the outer surface of the integument. The horny layer is more stretched than the rete mucosum, and that more than the corium beneath it. When the skin is fully nourished in youth and early middle life, this tension and relaxation does not affect it injuriously, unless, from an accident, there is a lesion of continuity. It is the common experience of all how slowly an ulcer or wound over the shin heals, unless special means be taken to lessen tension and give continuous rest. The tendency is for the wound to gape, and thus to delay cicatrisation. The popular idea is that this slowness of healing arises from the ulcer being so near the bone; but ulcers in other situations, which are equally near bones, but are not subject to the same tension from the contraction of neighbouring muscles, heal easily and rapidly. When the skin becomes thinner, and less elastic and succulent, as a consequence of senile atrophy, the outer horny layer is unduly stretched, and

desquamates more abundantly than it ought, and therefore prematurely. Very minute fissures occur in its structure, and these partly lacerate the nerve terminations in the cells of the rete mucosum and partly by admitting air irritate them. Hence itchiness declares itself; the part is scratched, and a papular eczema is occasioned,—a common complaint in this situation in the elderly of both sexes. We know that in many cases of eczema a preliminary symptom is itching some time before any eruption is visible on the surface. This is certainly caused in many cases by slight fissuring of the horny epidermis. Over-stretching, as has been described, is one cause of this; but another is over-dryness of the cuticle, and to occasion this there may be many causes. A natural diminution of the oily material of the skin from inactivity of the sebaceous glands, or an artificial lessening of this as a consequence of its removal by soap, or a check being put on its production by exposure to cold drying winds, all lead to a too early separation of the boundary scales of the epidermis. The cohesion of those beneath is less than it should be, and very minute cracks are formed, and within these, micro-organisms, probably innocuous under ordinary conditions are prone to set up fermentative changes. This is a cause of the localisation of eczema on the face and on the back of the hands. In both these localities, too, the cutaneous blood-vessels are liable to great and rapid variations in their calibre, and thus cause fissuring of this horny layer by their expansive pressure from below outwards.

The anatomical structure of the skin is also one cause of the occurrence of baldness on the crown and temples. There seems to be a tendency for the hair follicles to descend more deeply into the corium and the areolar tissue beneath the skin as we become older. It is in this way that the fine down which clothes the cheek and chin of the youth becomes the strong beard and whiskers of the man. This goes on more or less on all parts of the body; the lanugo tends to take on a stronger growth. But in certain situations this descent of the base of

the hair follicle is not so easily accomplished as in others. On the temples the muscular movements of mastication tighten the skin over the bone. On the crown the skin becomes by a slow atrophic process, as Pincus has shown, more tightly stretched over the skull, and the skin as a whole is rendered in those situations less rich in blood. This descent of the follicles is no doubt analogous to the growth of the rootlets of trees towards water,—an aspiration after a fuller blood supply. When, then, the follicle has descended into the scalp, the contraction of the skin chokes it, and the hair becomes first finer and shorter, and finally ceases to grow. Somewhat similar is the thinning of the eyebrows on their outer third while the centre becomes stronger, and the sparse and shorter growth of the upper part of the whiskers, while the lower and the beard become thicker or remain uninfluenced. In fact the mode in which strong hair invades new regions, while the previously existing hair suffers a partial atrophy, is an interesting study; one, however, which is surrounded with much difficulty, because it is impossible for any scientific observer to keep the same person during his entire life-time under his own observation, and one cannot draw satisfactory conclusions on this subject from the study of different individuals at the various periods of life, idiosyncrasies as to the production of hair being well marked.

2.—The Nervous Supply of the Skin as a cause of the Localisation of Skin Diseases.

Of late years, since the influence of the vaso-motor system of nerves has come into prominence, there has been a tendency to trace the origin of many otherwise obscure and hitherto unexplained cutaneous diseases to the perversion of the function of these nerves. The condition known as general exfoliative dermatitis, which includes many if not all the cases of pityriasis rubra, and some forms of bullous eruption allied to pemphigus, or forms of pemphigus itself, is most probably due to alterations

in the spinal nervous system and the sympathetic. That connection which exists between disease of the ganglia of the sympathetic, or of the nerves themselves, and herpes zoster has now been demonstrated, and that in some cases of morphœa, in alopecia areata, and papilloma neuroticum there is also a distinct nervous causation seems nearly certain. It is well known that psoriasis is frequently limited for a long time to the area of skin just below the patella, on which pressure is exerted in the act of kneeling, and to the skin over the olecranon, on which pressure and friction both act more especially. If psoriasis can ever be satisfactorily proved to be a parasitic disease, as Lang argues, then it is easily conceivable that skin so often thrown into wrinkles, and where dirt is wont to accumulate, is just the situation where a parasitic fungus would find a suitable nidus. The difficulty lies in explaining why the outbreaks should all at once become general, but a somewhat similar experience is common in eczema, which also, for long limited to one or two patches, may all at once spread over wide areas. We know that there is a law ruling in the case of the skin which may be formulated as follows :—When diseased action of a special kind occurs in one part of the integument, it is liable to be reproduced in other and distant, though possibly homologous, parts without contact and without continuity. This, so far as we can at present decide, must occur through the agency of the nervous system. There has been for a time a disturbance of the nutrition of two symmetrical portions of skin, due to imperfect innervation of those parts. The weakened nerve control extends in wider areas, and other parts of the skin become diseased similarly to the first.

Mr. Hutchinson, in his valuable lectures on the *Pedigree of Disease*, offers some explanation of these curious phenomena. In the case of psoriasis he regards the affection as an idiosyncrasy on the part of the skin, an individual peculiarity in its structure, and not originally or wholly due either to the blood or the nervous system. The disease, at first local, becomes in time

more or less general, and why it becomes general may again be illustrated by what he says with regard to many examples of eczema. The existence of a patch of eczema anywhere denotes that the person so affected is eczematously disposed, but its presence does more; it intensifies this tendency, or, as Mr. Hutchinson puts it, "the parts first inflamed contaminate the blood, and become the causes of inflammation of similar tissues elsewhere." The original patch may long persist as a mere local ailment, but there is a constant and increasing risk, so long as it remains uncured, that the end of it all will be a more or less extensively spread diffusion. We are not often consulted while psoriasis continues limited to the elbows and knees, indeed the patient often scarcely is aware of the presence of patches in these situations so long as they are small and the scales thin. So also with eczema, the first indications, unless on parts of the face or hands, which cause disfigurement or inconvenience, are overlooked or treated lightly, and a condition which may be called diathetic has been established before the disease is fairly grappled with. "The permitted persistence of any local disease may become a source of danger, just as we well know the permitted persistence of a malignant growth constantly does." Lang has argued that we can only hope to cure psoriasis by treatment continued till every vestige has for some time disappeared. How much might be done were it attacked in its very earliest stage, before a state of "pathological habit" had been acquired! And in the case of eczema this applies even more strongly, for in psoriasis we can seldom discover any alteration in the general health at all closely connected with the disease, but in eczema we can usually find something wrong somewhere, and not uncommonly this may be more easily discoverable, and will certainly be more easily remedied, when the disease is in an early stage, than when it has become more widely or more deeply extensive.

3.—The Occupation and Habits of the Individual as a cause of the Localisation of Skin Diseases.

An interesting group of causes is included under this head, because when in any case we can discover such an influence at work, we are a long way on the path conducting to the cure; or rather, perhaps, we have found a finger-post which indicates pretty clearly our route. As illustrating this, I may relate a case which came directly under my notice. A tailor came to me with the following story:—Six years ago a piece of home-spun was sent him from the Highlands to be made into clothes. He had not long worked with it till his fore-fingers and thumbs became painful, and inflammation was set up at the roots and beneath the nails which incapacitated him from work for some time, even after the web had been all used up. Last year a coat which had been made at that time, and which must have lasted well, was sent to him to be made down for a boy. He had forgotten all about his previous experience, though he recognised the coat as his handiwork. Scarcely had he begun to sew it than the nail of the right thumb became painful, and when I saw it there were exuberant granulations sprouting up from beneath the nail and by its side. Discontinuance of work for a short time, accompanied with the application of nitrate of lead twice a day in powder to the granulations, soon cured his onychia.

All are familiar with the eczema which occurs in masons and plasterers from their contact with caustic lime. In them, however, there is usually either some peculiar tenderness of the cuticle habitual to the individual, or he has become for the time anæmic, and his tissues have lost their ordinary firmness and density. The same may be said of washer-women's eczema, in which the inner side of the left wrist is particularly liable to suffer, owing to the friction exercised against that part in the act of rubbing the linen. In diagnosis the resemblance in this

respect to scabies must be borne in mind. The dermatitis occasioned by the primula obconica is another instance. The hairs on the stem and leaves seem the agents which convey the poison. Some gardeners suffer on face and hands, many do not.

The acne rosacea of cab-drivers, and the brown patches in front of the legs of furnacemen and others exposed to radiant heat, are also instances of localisation due to occupation.

Habit once more is illustrated by the production of epithelioma of the lip, as a sequence of continual smoking with a short pipe, the stem of which tends to become overheated. The inhalation, too, of smoke, high in temperature, has an undoubted influence in inducing malignant disease of the tongue; while the same injurious effects in retarding the healing of mucous patches of the buccal membrane is seen in cigar and cigarette smokers, more particularly the latter. Smoking perpetuates the patches of leukoplakia and arrests efforts at cure.

We see eczema produced on the forehead from wearing a hat the lining band of which is enamelled with some pigment containing arsenious acid. Sometimes this form of eczema is due to the decomposition of the fatty acids which have soaked into the band. The cure for this is said to be, to rub the band with burnt magnesia, so as to leave a thin film, then wipe off with a cloth before applying again.[1]

Habits as to diet are operative in determining the production of various skin diseases. To one only, often overlooked, I will direct attention. This is the complete exclusion of fresh vegetables from the articles of food taken. We meet every now and again, in all classes, with examples of land scurvy, which are usually looked upon as cases of purpura, because there is often no tenderness of the gums to speak of. Such persons not infrequently take potatoes, but no other vegetable, and with all the reputed antiscorbutic properties of potatoes these individuals suffer from repeated crops of petechial spots

[1] *Prager med. Wochenschrift*, 39, 1889.

on the limbs, and, in some instances, bleeding into and from the mucous membranes. Thus I have seen hæmaturia so produced, hæmoptysis, and even hæmorrhage from the stomach. When such persons, who often assure one that they cannot take vegetables of the cabbage order, or indeed any true vegetables at all, do take them, the cure is rapid and complete without the aid of drugs, though I have found iron and ergot facilitate recovery and remove the anæmic state which co-exists more speedily.

Lastly, feigned eruptions are often recognisable by the locality affected, which is always an accessible one, very often only on the anterior aspect of the trunk, and most commonly on the left side. The same spots, too, are over and over the seat of the eruption. When it is added that the patients are chiefly females, and a hysterical element can be more than suspected, proof is strengthened.

4.—The Influence of Protection or otherwise by Clothing as a cause of the Localisation of Skin Diseases.

We never see tinea versicolor on an uncovered part, and though it may extend in rare cases from its seats of predilection, the centre of the chest and back, to the axillæ, arms, and legs, it is not seen on the face[1] or hands, and never in children. The "flannel rash" which Hutchinson and others have noticed on the chest and trunk, is another instance of an eruption due to clothing. This consists of an erythema, often symmetrical and usually limited to the parts covered by the woollen vest. It desquamates slightly, may assume a brownish tint, and has been often mistaken for a syphilide, or for ringworm of the body. The patches are nummular and itch a little. Disuse of thick flannel underclothing, and the substitution of silk or soft

[1] One single exception is the case recorded by Biart (*Journal of Cutaneous and Venereal Diseases*, 1885), where in association with patches elsewhere some occurred on the cheeks and forehead.

cotton is advisable.[1] The rarity of psoriasis on the face and hands is noteworthy, while lupus, on the contrary, is by far most frequent on the face, a fact which has led to the suggestion by Besnier that it may be implanted in the skin from without, yet the *Bacillus tuberculosis* is but sparingly present in lupus tubercles. That the nodules of tubercular leprosy are also most common on the face and parts adjoining where they first appear, would seem to point to an origin from contagion. In pellagra, while the influence of solar heat must be looked on as the exciting cause leading to uncovered parts being chiefly affected, the wretched dietary, and more particularly the use of diseased maize as food, is the predisposing cause. We know so little yet of xeroderma pigmentosum that its etiology cannot be determined, but it, like pellagra, and one form of dermatitis herpetiformis, selects preferentially uncovered parts.

Freckles are present on parts of the body not exposed to light for any continuous length of time, but the effect of the sun's rays in rendering those darker which are submitted to them is undoubted.

The pressure of articles of clothing on special parts determines the localisation in some cases. Thus the paronychia of syphilis is much commoner on the toes, where the shoes exercise pressure, than on the hands, where no such pressure is exerted. Corns on the toes are caused by narrow ill-fitting shoes, on the sole by a fold in the lining.

[1] *Archives of Surgery*, October 1890, plate xxiii.

CHAPTER IV.

ON THE MODE OF STUDYING SKIN DISEASES.

One great and distinctive difference between diseases of the skin and those of the internal organs is, that in the former we can see and appreciate by our senses of touch and vision nearly all the phenomena, for the symptoms of skin diseases are mainly objective, and those which are subjective are frequently recognisable by external signs. This distinction leads to an ever-recurring error, that it is quite sufficient to attach a name to a skin disease to enable one to apprehend not only its essential nature, but also the mode of treatment to be adopted. Nothing can be more unfortunate or more disastrous than this. It is true we must have a nomenclature in order to convey to others, as well as to picture to ourselves, the concrete idea of disease, but the term applied, while it indicates broadly the affinities of the disorder, leaves vast lacunæ to be filled up. The first principle, then, which must be firmly implanted in the mind is that the local manifestations of the disorder of the skin are to be studied in relation to the condition of the general system. While it is all-important that the lesions exhibited on the surface of the skin should be minutely and critically inspected, we must not stop here. It is necessary, further, to inquire carefully into all the other systems, and then, aided by this extended knowledge, to return to the starting-point—the skin; it will be rarely the case that we do not come back with notions modified and conceptions enlarged. Hebra, the great founder of

modern dermatology, taught that our diagnosis should be based entirely on the information acquired by our own senses, the patient himself being absolutely passive. He feared so much the chance of being misled by false statements, made either wilfully, ignorantly, or carelessly, that he preferred to dispense with verbal communications from the patient altogether. A much better plan is to examine the patient minutely first, form a speculative opinion, and test and modify this by addressing suitable and not leading questions on those points where the examination fails to give decisive evidence. In this way, making the patient's statements the check upon our own scrutiny, we escape the pitfall into which we might be led were we to base our opinion primarily on what is told us by one not trained in the lines of rigid accuracy. In this way, too, we avoid losing information of very great value, and, with all respect for Hebra and his followers, without which the majority of even skilled observers would in many cases fail to form a correct opinion. In making this examination we must pursue a system, and as the cutaneous system is the one with which we have in this connection mainly to do, it should first be exhaustively inquired into. We must see all the parts affected, or, if not all, as many as possible. When various parts of the body are implicated, a comparison of all will certainly enable us to form a better opinion than were we to see only one or two out of many. Besides the fact that the disease may exist in different stages in different parts, treatment well adapted for one locality may be entirely unsuitable for another. When it is possible to see all parts at once, this is best; in the case of females it may be necessary to inspect the parts in succession. If inspection be refused, it is better not to undertake the treatment than to work in the dark. Those parts where the eruption is in its simplest form are the ones best calculated to give us true information. Thus, while it is necessary to see the worst as well as the most slightly affected parts, those parts where the disease has lasted long are apt to become the seats of secondary alterations, which

veil and confuse the primary lesions. Besides the parts of the body which are less severely involved in the disease, much valuable evidence can often be gained from the neighbourhood of the margin of patches or from the condition of the edges of the areas affected themselves. It is of the greatest consequence that the first examination should be thorough, since before we can see the case again changes may have occurred which may render the discrimination much more difficult. It is also essential that we should make an inspection in clear daylight; the colour of the eruption has frequently a most important bearing on the diagnosis, and colour is masked or altered by artificial light. Indeed some skin eruptions are all but invisible by gaslight, and microscopic examination is not so easily nor so satisfactorily carried out by artificial illumination. While we must determine the presence of papules, vesicles, macules, crusts, or any or all of the so-called primary and secondary features which go to make up the individual disease, there is more than that—we must form a general conception of the disease as exhibited as a whole in the instance before us; for this general conception may convey to us as valuable hints in the management of the case as the separate elementary items do which make up a patch of the eruption.

While taking in the aspect of the diseased parts, we must at the same time examine and note the condition of those as yet apparently healthy. I have spoken already of the soft, velvety, somewhat unctuous feeling which the skin has in health. This state, though it may be encountered at all periods of life, is peculiarly the condition met with in youth and middle life. In old age it becomes atrophied, thinner, drier, harsher, more wrinkled, and more pigmented. The subcutaneous part undergoes more or less absorption, and renewal is not commensurate with waste, at least old material is made to do duty longer than it should. But this senile condition is also seen more or less universally at a time of life when, properly speaking, it should not be present, the time measured by years for its manifestation

not having arrived. We should therefore estimate as accurately as we can the appearances of the skin as regards age, as well as its general condition as regards nutrition, and the state of health of its component parts. The state of the horny layer of the skin has much to do with our decision as to the comparative health of the skin as a whole. It is the protective layer, and any failure in it must render the subjacent parts so much the more obnoxious to any irritation from without. Again, the vascularity of the skin is an element in its condition to which much attention should be paid. The activity of the circulation or the reverse, the quality of the blood supply, have a serious influence on the duration of many diseases. The state in which we find the cutaneous appendages, the hair and nails, enable us to guess pretty accurately at the state of nutrition of the skin itself. If those are dry and lustreless, or thin and brittle, it may be assumed that the epidermis also is not in a satisfactorily active state, and we may thus sometimes anticipate and obviate coming mischief.

Though not always a necessary element in treatment, it is often of much value to trace back the eruption to its earliest form, the mode in which it first became visible or otherwise attracted attention, or at least the simplest elements we can recognise at the time the case comes under our observation. This may be accomplished at times by a careful examination of the lesions which make up the eruption in its present condition. But far oftener we have to fall back on the history as supplied by the patient, and by permitting this to come in as an auxiliary after the conception formed by ourselves from the objective symptoms, we are much better able to discover how far the account given us is accurate and truthful.

Another circumstance is worth noting—the possible co-existence of two distinct diseases at the same time. This may not be practically of very serious consequence, as one may be treated and cured independently of the other; and with the removal of one the other will come into prominence. This point was

forcibly impressed on me at an examination for a prize in clinical medicine held in the Royal Infirmary. There were three cases submitted to the candidates: one of common psoriasis, one of disseminated ringworm, and a third of scabies combined with psoriasis. Out of seventeen students only two noted both diseases, and a third remarked on the presence of a second lesion, which, however, he erroneously regarded as specific. Though the scabies was undoubtedly the more prominent, the patches of psoriasis were well defined and characteristic. The possible occurrence of two morbid conditions at the same time, so interlaced as to distract attention, should therefore be borne in mind.

While, however, we are to inquire into the past history of the cutaneous affection itself, we are also to investigate the condition of the general system. We seldom meet with any direct relation between skin diseases and organic diseases of the heart or lungs. Indeed, it is much more the class of disorders which we call functional which are related to troubles affecting the skin. While not, then, neglecting the circulatory and respiratory, we should devote special attention to the digestive, the genito-urinary, and the nervous systems. These, in the order in which I have named them, exert a most powerful influence, not only in initiating, but also in maintaining the skin disease. It is quite true some skin diseases are, and others seem to be, purely local, but many of the former are rendered more intractable by, and the latter are often associated with, more or less obvious constitutional disorders. At all ages the state of digestion has powerful bearings on the nutrition of the skin. During the early years of life, the elements of the skin are developing and consolidating, and thus anything which interferes with their due, regular, and continuous supply of nutriment must prevent these processes of growth from proceeding satisfactorily. At times the whole economy is convulsed by particular fresh disturbances; the dentition, primary and secondary, and the occurrence of puberty, determine certain skin ailments. In middle

life the effects of external causes have more efficacy: occupations, mode of life, anxiety, worry, all tell detrimentally, and these must be taken into our consideration. These disturb digestion, and render the skin less resistant. Digestive disorders have less influence in the later years of life, though even then they do exert some. The digestive system must be investigated very thoroughly, not merely as to the mode in which it works, but also with reference to diet, to habits as regards time of meals and hours, their sufficiency or otherwise. The omission of particular elements of healthy dietary may be found to weigh much in the discovery of causes. Again, the employment of unwholesome articles, whether these be so to all or relatively to the person himself, determine some skin diseases. The whole question of food must thus be intelligently gone into. This will again be touched on under the head of the diseases themselves. The influence of the genito-urinary system, if sometimes less manifest, is no less operative. Both the evolution and the decline of generative activity are eras when certain well-defined disorders of the skin show themselves, or become worse, while the effect of positive diseases of the genital system, if less obvious, is quite ascertained. The state of the urine may often throw light on some obscure points. It will be seen by and by that to the nervous system many interesting diseases own a close connection, and while some have been cleared up, there are yet many points in the nerve-pathology of the skin which await solution.

We are compelled to assume a tendency to disorders of the cutaneous system in certain persons. Their skins seem *partes minores resistentes*, but there seems no use in elevating this to the dignity of a diathesis, as has been done in France. We are no wiser because we are told such and such an one possesses the dartrous diathesis. Indeed, such cloaks for ignorance are better laid aside. This theory, if such it can be called, which originated with Bazin, has found no favour in Germany, as indeed we would scarcely have expected, and is not much quoted here or in America. Some classes of skin diseases, presenting

common analogies, have been associated as belonging to this division of dartres, but authors are not agreed as to the diseases which should be placed together. On other grounds we may well place, as it were, in a natural order some allied diseases, but scarcely perhaps because they are thought the products of a skin diathesis.

The general care of the skin as regards cleanliness has much to do with the production and continuance of skin diseases. Dirt, by checking the free action of the glands, and by causing the imperceptible desquamation to be imperfectly performed, the horny layer not being thrown off regularly, leads directly to some skin diseases, while the other extreme of over-washing, especially with too hard water or too alkaline soaps, removing or softening too much the protective cuticle, may in some circumstances occasion them.

The influence of drugs which may have been administered for some ailment quite unconnected with the skin must be borne in mind. Thus the various eruptions produced in certain individuals by bromine or iodine, are occasionally puzzling. The pigmentation induced by the long-continued exhibition of arsenic, or the scaly condition not unlike psoriasis which follows doses of borax, should not be overlooked.

Both the amount of clothing, and the materials of which it is composed, or the dye used to colour it, will be found to have an effect on the skin, either in producing some eruptions, or in aggravating others which have arisen from other causes.

You will hear much of the state of the blood as a supposed factor in the causation of skin diseases. That the state of the circulatory fluid does influence the nutrition we cannot doubt, but when we descend to particulars we are at fault. I would warn you against, in excess of scientific zeal, denying the reality of this popular prejudice. Observations have shown some alteration in the number of red corpuscles in certain diseases, and in the relative proportion of red and white. We also accept the changes in the blood in gout and in rheumatism, and these,

especially the former, do most certainly modify the condition of the epidermis. In scorbutus also the alterations in the blood, due to a peculiar diet, lie at the very foundation of the complaint, but none of these changes are those present to the mind of the patient, as he or she anxiously asks if their blood be not out of order. The old humeral pathology still reigns here. A heated condition of the blood is assumed when boils or pustular eruptions make their appearance. When such a query is made we should not therefore too rudely answer it in the negative. The medicines which we prescribe under the names of tonics, of alteratives, antacids, or alkalies, must exert their effect on the blood, and through it on the tissues. Some skin diseases are produced by a medicine much advertised and pretty extensively used as a blood purifier. Clarke's blood mixture is in the main a solution of the iodide of potassium, and I have seen pustular eruptions directly due to its incautious, indiscriminate, or improper use.

"*Better out than in*" is a common saw in reference to eruptions on the skin, and though this has led in consequence to error and to dread of legitimate treatment, it is based on premises which are partially sound. It is matter of everyday observation that the fever and constitutional disturbance which precede many eruptive disorders become immensely relieved with the full development of the exanthem on the skin. We can conceive that a congested state of that organ exists, which is relieved by the formation of papules, vesicles, or wheals, accompanied with the escape of leucocytes in numbers into the perivascular spaces. But this sense of relief does not continue indefinitely; the congested state having passed off, the eruption itself becomes a source of annoyance, and its perpetuation no longer to be desired. The experience is now almost universal that there can no harm result from the cure of any cutaneous disease when undertaken judiciously, and our endeavour should be to remove all such as speedily as we can. It is, however, asked not infrequently, Is there no danger of driving in the eruption? Or,

to put the same idea in another form, "I would rather you did not drive in this out-striking." In this case we should explain that such is neither our aim nor intention, but that, with an improvement in the general health—that of the skin included—the efflorescence will disappear quite harmlessly. In some patients, the subjects of chronic ailments, an old-standing eczema may be, as Brocq[1] has shown, a safety-valve, not to be too rashly interfered with. When treated, derivation through a suitable channel is to be aimed at, and occasionally it is better to be contented with an amelioration of the most vexatious symptoms rather than thorough cure.

The doctrine of metastasis is one which must also be noticed here. We sometimes see extensive disorders of the skin fade rapidly away on the occurrence of some of the specific fevers, the exanthemata, or acute inflammations of internal organs. The inflammation here cannot be regarded as the outcome of the disappearance of the efflorescence, but the cutaneous disease vanished in consequence of the occurrence of the inflammation or other disease. We know this to be the case because certain diseases—notably psoriasis and scabies—reappear when the bodily health has been re-established; the one being what is termed a constitutional, the other a purely local disease, due to a local cause.

Natural peculiarities influence not only the frequency with which skin diseases generally, and special forms in particular, are met with, but also the mode in which they are to be managed.

In Austria, and abroad generally, the diagnosis of disease has gone in advance of its treatment,—at least it has done so in cutaneous diseases as regards internal treatment. Hence merely local remedies are ordered by the doctor, and are accepted and used by the patient without a murmur. In this country the empiric management of disease, and the conjunction of the apothecary and physician and surgeon, so long held sway that

[1] *British Journal of Dermatology*, February 1889.

drugs were prized far beyond their real value. It is therefore seldom advisable to recommend purely local treatment in almost any case. We lose the confidence of the patient, and with it a certain degree of aid from mental condition—from "expectant attention," as it has been called—if we do not prescribe internal in conjunction with external remedial measures. Some carry this so far as to administer medicines by the mouth in purely parasitic affections, such as scabies, without evidence of deterioration of health. All measures which will cure our patient are not only permissible, but to be recommended, and thus a combined external and internal treatment is best for all.

There is another matter which, in duly studying skin diseases, should be borne in mind,—the relationship which one disease bears to another. Though a well-marked example of nearly any of the dermatoses can scarcely be mistaken, yet there is often a tendency for one cutaneous disorder to assume, in whole or in part, the characteristics which distinguish another. Thus, while the localities which are particularly those in which one disorder as a rule manifests itself are in general avoided by another, we sometimes find this law transgressed, and an anomaly produced which may puzzle us. Again, in some skin diseases subjective symptoms may be as a rule absent, yet in a few rare cases these are found to be present, or the converse. The pediculus pubis in general gives rise to intense local irritation, yet there are persons in whom it occasions no annoyance whatever, though abundantly present. Colour, too, is not always uniform, even in the best-defined diseases, and this is not merely affected by the hue of the skin in the person—dark or fair, brunette or blonde—but by the disease itself. It is this sportive tendency manifested by skin diseases which adds so much to the difficulty of their diagnosis, while it also enhances very materially the interest which attaches to them. Hence none of our atlases can be regarded as complete, for they are but representations of one phase of complaints which are almost kaleidoscopic in their variations.

Another point which must always be borne in mind, when a case of skin disease comes under our observation for the first time, is the influence which previous treatment may have had. Treatment of all kinds materially alters the more distinctive and prominent symptoms. When of a stimulating character, it may have caused more or less inflammation, which will certainly mask the characteristics. Thus prurigo and eczema which have been subjected to the action of irritants lose in this way their ordinary aspect, and it is only when, by rest from such applications, the skin has been permitted to tone down, that we can recognise the true state of affairs. Again, the presence of crusts may render the state of the skin beneath unrecognisable till they are removed; or, conversely, the removal of scales may quite puzzle us as to the nature of a psoriasis or pityriasis rubra. Hence a question which should always be put is, Has this case been treated, and how? Much may depend on the reply. Patients desirous of a purely independent opinion sometimes try to put us on the wrong scent, or at least endeavour to find out how much we know by withholding information. Practice and a thorough acquaintance with our subject are the only means by which we can, under these circumstances, save our reputation; and for lack of the one or other, or both of these, opportunities of adding to one's credit have been often lost. This will therefore require us to be very cautious in expressing an opinion with regard to the nature of a skin disease when we are not absolutely certain, and until we have carefully eliminated these sources of error.

When we can ascertain the treatment which has been previously employed, and can note for ourselves or learn from the patient its comparative success or failure, we are in a much better position for commencing our own. We may thus be enabled to avoid errors into which our predecessor may have fallen, or at all events to profit to some extent from the experience we have gained through him of the action of certain remedies in this particular case. For many individuals present certain idiosyn-

crasies, and it is an undoubted benefit to know beforehand whether any such exist in the instance then under our notice. We must not, however, make too much of patients' statements about the influence particular remedies have on themselves. Sometimes it is the combination which has been at fault. But we should treat their statements with respect, and allow them to guide us,—at least so far as to employ with discrimination and caution any medicines or external appliances which are said to disagree with them.

When the same skin disease has repeatedly recurred in the same person, the observations he has made on the mode of onset, the season of its occurrence, and the period of time the attacks have lasted, are matters of much interest, and may frequently convey suggestions of much value as to the management.

One last point is the prognosis. We are almost certain some time or another in nearly every case to be asked how long the disease is likely to last, and if a complete cure can be guaranteed, or is to be hoped for. Our reply to these in special cases will be alluded to under the heads of the diseases themselves. But there are two indications which are of pretty general application. One is that no opinion as to its duration can be given so long as an acute disease, or the acute stage of a disease, is in progress, and the disease continues to spread. Again, in chronic skin diseases, so long as we find patients do not sleep well, we must always be prepared for a relapse. This is in fact a concise test as to whether the disease is on the increase or decline. In inquiring as to this—as indeed in many other cases also—speak carelessly, as if by chance, so as to get a proper answer. This sleeplessness is, according to Hebra, little benefited by opiates, but indeed rather aggravated. The improvement in the skin disease is always *pari passu* with that in sleep.

CHAPTER V.

SYMPTOMATOLOGY AND CLASSIFICATION.

Before considering individual cutaneous diseases, it is necessary that those pathological alterations in the structure of the skin on which their recognition by a second person depends, and those sensations which they give rise to, so far as these are capable of description, should be explained. It is from the peculiar arrangement of these in different cases, and under various circumstances, that the diseases themselves are named, and classification becomes possible. We have to deal, then, first with objective symptoms, those, namely, which manifest themselves on the surface, which are usually the result of some structural alterations in the tissues, and can be seen; and, secondly, with subjective symptoms, those learned from the patient himself, being due for the most part to sensations of which he alone is conscious. These latter are much more liable to fallacy, either from misinterpretation of their meaning, or from error in the mode of stating the impressions they produce to others. These errors are seldom wilful, but arise from a want of training in the habit of accurate observation.

I.—Objective Symptoms.

We distinguish in these two groups, one consisting of primary lesions, and another of secondary ones, which are dependent on

or result in some way from the primary. The primary lesions are—

Macules or spots.
Papules or pimples.
Vesicles or blebs.
Pustules.
Wheals.
Tubercles.

The secondary lesions are—

Crusts.
Scales.
Excoriations.
Fissures or cracks.
Ulcers.
Cicatrices or scars.
Pigmentation.
Leathery infiltration.

Primary Lesions.

1. *The Macule or spot* consists in any abnormal change in the colour of the skin confined to a limited area. This definition thus includes many different kinds. There may be no more than congestion of the upper layer of the corium or the papillary body; such fade for the moment entirely under the pressure of the finger; or when exudation is associated with hyperæmia, pressure only partially displaces the congestion, and a yellowish tinge persists. When actual hæmorrhage into the skin has taken place, the spot is uninfluenced by pressure. Pigmentary macules are occasioned by an excess of the normal skin pigment in the deeper layers of the rete mucosum, or are seen during the absorption of the blood which constitutes the hæmorrhagic macule, in process of which there is a transition through purplish red to greenish yellow and brownish yellow. There may be also white macules, as in leucoderma, or as the result of scars. Peculiar

leaden-blue stains, beneath the epidermis, are seen in some cases on the trunk in connection with the presence of the pediculus pubis. Macules thus may be primary or secondary. When more extensive tracts of skin are altered in colour, the term *discoloration* is employed.

2. *The Papule.*—This term is applied to any morbid change in the skin which forms a solid projection above its surface, from the size of a millet seed to that of a lentil, and, so far as can be appreciated by the eye, containing no fluid. The papule is by far the most important of all the primary lesions, and indeed that out of which most of the others may and do develop. Various attempts have been made to formulate a more precise definition for the papule than that I have stated, but while it is true that it would be better if we could separate at once papules anatomically quite distinct, yet it seems in the present state of our knowledge the only plan to determine in the first place the presence of a papule as I have defined it, and then to inquire further into its pathological significance. Hence we find we have to deal with several kinds of papules. The commonest are those due to hyperæmia and plastic exudation into a portion of the true skin, the papillæ, or the follicles. Properly speaking, those only should be called papules which continue throughout as such; others, which do not represent the termination of the inflammatory process, should be regarded as the papular stage of the disease of which they are the visible signs. Another form of papule is that caused by epidermic accumulation, a concentric heaping up round the hair follicles, through retention of the tubular root-sheaths which are continually being extruded from the follicle, carried up by the hair in its growth.

A third variety is produced by the degeneration of the sebaceous gland, and the conversion of the sebum into opaque white points, the size of pins' heads. These papules are met with on the eyelids and scrotum of adults, and on the cheeks of infants. Allied to these latter are white comedones, due to an excessive cornification of the sebum, which distends the duct of the gland

or of the hair follicle. Again, hæmorrhage into the skin, when this takes place superficially and in minute drops, occasions a papule. And lastly, papillary hypertrophy. These remarks merely serve to indicate generally the mode of production of the papule, their special and individual characters will be described with the disease in course of which they arise.

3. *Vesicles.*—These are elevations of the horny layer of the epidermis by transparent or milky fluid. Their size corresponds to that of the papule. When the serous fluid which is exuded from the vessels during inflammation of the skin permeates the rete mucosum, and thus reaches the horny layer, this yields at its part of weakest attachment, the granular zone, and the horny layer is raised up as a vesicle over a circumscribed portion. In certain cases the cells of the rete become œdematous, and the serous exudation is contained rather within the cell walls than in the spaces between, and a chambered vesicle results, which is known as the *pock*. This is seen in its typical form in vaccinia and variola, but may occur also in herpes and in syphilis. Vesicles—occasionally single—are oftener seen in clusters, as in eczema, which are readily broken, or in groups, as in herpes zoster, where they persist long; are also most often seen where the cuticle is thin and tender; but when found where it is thick, they present peculiar features, are deep seated, and look like sago grains embedded in the skin. Besides the inflammatory vesicle, others are produced as a sequence of excessive sweating. These are due to the anatomical arrangement of the part of the duct of the sweat gland which pierces the horny layer. In consequence of its spiral course the watery fluid, welling up from below, raises some layers of the horny tissue of the skin as delicate vesicles. Vesicles are in some cases a further stage of the papule, in others are primary. *Blebs* or *bullæ* are merely larger vesicles, which, however, possess relatively stronger walls, and hence are more permanent. They are usually tense, but may have flaccid walls, and then are either met with in feeble persons, or indicate a profound dyscrasia. Their contents may

be clear or pale yellow at first, afterwards cloudy, unless when they contain blood, and then the bleb is reddish or black. They are usually preceded by a hyperæmic macule, which, however, seldom subsequently persists as an areola. The alternation of the vesicle and bleb is occasionally well seen in scabies. The most common form of lesion in scabies is the isolated vesicle, but sometimes large bullæ are produced instead, especially on the hands.

4. *Pustule.*—This, most simply defined, is a small abscess, covered only with epidermis. Much discussion has taken place as to whether the pustule should be regarded as one of the primary forms of eruption or not. It is true it very often is but a further stage of development of the papule or vesicle; but the development progresses so rapidly in many cases that the condition of pustulation has been reached when the eruption first attracts notice. It is now generally held that the occurrence of pustulation is due to the action or invasion of pyogenic organisms, usually the staphylococcus pyogenes aureus. In some the rapid or abundant production of pustules indicates a dyscrasia allied to struma.

Hebra was inclined to deny the primary nature of pustules; yet he, and, more recently, Kaposi, described a peculiar disease called impetigo herpetiformis, in which the lesions are essentially pustular from the outset, and remain so throughout.

5. *Wheals.*—These are defined by Hebra as solid forms of eruption, which are but slightly raised above the surface of the skin, and of which the superficial area greatly exceeds the thickness.

They are thus elevated œdematous swellings, which, when fully developed, have a central portion paler than the periphery; indeed the pale part may be most extensive, set in or surrounded by a red ring. The phenomenon of capillary pulse, as noted by M. Hirtz, is sometimes visible. They are caused by a sudden congestion and rapid transudation of serum into the upper layers of the corium, spreading much like an oily stain.

Thus the skin becomes swollen over a limited area; but as wheals easily coalesce, a considerable space of the skin may be ultimately involved. The œdema of the wheal is peculiar, inasmuch as it does not pit, and can scarcely be displaced on pressure. Wheals appear suddenly, and may be very evanescent; but at times, when the eruption occupies large tracts, or when the wheals themselves are unusually large, they may persist for several hours, or even longer.

The hyperæmic part of the wheal is easily accounted for, but the causation of the pale centre has led to more discussion. One view was that the steadily increasing œdema drove the blood from the centre to the circumference. Another, that the central pale part was due to a secondary spasm of the muscular coat of the blood-vessels. Unna,[1] however, points out that the lymph given off by the capillary system of the papillary layer of the skin is destined in the main to be again taken up by the large cutaneous veins. "If we now conceive that those large veins, provided with muscular fibres, be spasmodically contracted, the lymph movement in the skin will be arrested. The secreted lymph, admission being denied, will collect round the large vessels, and accumulate in and engorge and split open the deeper, and eventually the more superficial sections of the cutis." Sections of wheals artificially produced exhibit changes which correspond to and explain this view. For a wheal to be produced at all, according to Jacquet,[2] there must be (1) a particular condition of the cutaneous vaso-motricity, and (2) a local excitation which provokes the neuro-paralytic reaction.

Though as a rule wheals leave behind no trace unless scratched, when they persist long, or, as in urticaria pigmentosa, they are constantly being reproduced on the same spots, a certain amount of staining may remain. When this is the case, besides increased deposit of colouring matter, Unna has

[1] *Monatshefte für praktische Dermatologie*, 1887.

[2] *Annales de Dermatologie et de Syphiligraphie*, Nos. 8 and 9, 1888.

found abundantly peculiar granular cells (Ehrlich's *Mastzellen*) in the corium.

From the active implication of the papillary layer of the skin papules are often met with in conjunction with wheals, or as their sequence. In their production the nervous system plays a more evident part than in that of the other forms of primary eruption. This is seen more particularly when wheals develop in consequence of the ingestion of some special article of dietary, the reflex action causing the evolution of the wheal being started almost at once.

6. *Tubercles.*—Those, which constitute the last of the primary lesions, are firmly seated, solid elevations of the skin, varying in size from a split pea to a cherry. Their seat is in the corium or subcutaneous tissue, and their colour is commonly some shade of red or reddish brown. These may have a broad base, as seen in some forms of the tubercular syphilide, or are pedunculated, as in fibroma.

Secondary Lesions.

1. *Crusts.*—Whenever the horny layer of the epidermis is fissured, or its continuity destroyed, a serous or more or less purulent fluid exudes from the rete or corium, and, this drying up, forms a crust. Sometimes the follicles pour out a glutinous material, which, mixing with the serum or sero-pus, imparts to the resulting crust a honey-like aspect. The less extensive, either in superficies or in depth, the lesion of the epidermis is, the more thin and filmy will the crust be. Thus, in eczema, when subacute, the dry accumulation on the surface more resembles scales. Under certain conditions fluid is exuded at intervals, the crust originally formed being raised up in mass from below. This is seen in rupia from a progressive extension of the ulceration beneath, and thus a cockle-shaped crust is the final result. Crusts may also form when there is excessive and altered follicular secretion, as in so-called seborrhœa.

2. *Scales.*—When the nutrition of the epidermis is inter-

fered with, either by congestion of the true skin or by some chronic inflammatory process, or by the growth of parasitic fungi in its own proper structure, it is apt to separate in the form of a branny dust, or as dry flakes. These are what are known as scales. In the production of the scale, therefore, the essential feature is the existence of a previous or still persisting disturbance of the nutrition of the cuticle from beneath. There is no visible exudation of serum, therefore the scale is dry.

3. *Excoriations.*—These are breaches of continuity in the more superficial layers of the skin. They are commonly caused by the scratching or friction of the person himself. They are valuable as being an unmistakeable sign of a subjective sensation, as itching, though they do not indicate in all cases whether this arises from nerve irritation propagated from without inwards, or in the reverse direction. Their situation, and also to some extent their shape, are related to the cause which has led to their production. There may, however, be itching to a marked degree and yet no visible marks on the skin due to scratching. This is seen in many cases of lichen planus, of pruritus senilis, and in urticaria.

4. *Fissures.*—Only those which are visible to the naked eye are properly secondary lesions, for the microscopic fissure is very often the commencement of some skin affection, or the mode in which the efficient cause gains access to the skin. The fissures of which we are now speaking are long cracks in the integument, which may involve no more than the cuticle, or penetrate pretty deeply into the true skin. They are due to stretching or compression, when the natural elasticity and pliancy of the skin has been diminished by infiltration into its structures, and as a consequence of the interference with its nutrition the epidermis has become brittle. Besides, from the increased thickness of the skin, its outer surface is more strained than in ordinary and healthy conditions. This increased friability of the outer layers of the skin may be caused by lowering influ-

ences, as cold, by chemical agents which diminish the natural oiliness, or by chronic inflammatory processes.

5. *Ulcers.*—In these there is destruction of a portion of the true skin, and they may arise from several conditions, such as inflammatory action of an intense degree in persons whose nutrition is below its healthy standard; or the local nutrition may be imperfect, and some mechanical injury causes the death of the part, as in varicose limbs. Or, again, there may be degeneration of some new product with which the skin has been infiltrated. Each class of ulcer has special features of its own, but all ulcers leave—

6. *Cicatrices or Scars.*—While the epidermis, even down to the corium, can be entirely regenerated, the structures of the true skin can never be quite fully replaced. The part heals, but the connective tissue which fills up the breach exhibits at first a deeper shade of pink than the surrounding healthy skin, and finally, as the tissue contracts, becomes less vascular, and whiter and more opaque. The scar, too, is less resistant than the original skin, and breaks down under adverse influences more readily. Sometimes there is no external breach of continuity; the true skin, which has been destroyed, is removed by interstitial absorption, but still a scar results.

7. *Pigmentation.*—Any long-continued irritation of the skin, not intense enough to cause its destruction, but sufficient to occasion a frequently recurring congestion, will lead in the end to the deposit of pigment in the skin. This is therefore of value in showing the difference between an acute and a chronic cutaneous lesion, and the presence of pigment may further aid our diagnosis as to the disease, of which it may now be the sole visible trace.

8. *Leathery infiltration* of the skin, though not so alluded to in the class-books, may be considered in the light of a secondary lesion. Long continuance of an inflammatory state, or repeated subacute attacks, induce a low form of organisation of the plastic lymph effused, producing a rough, dry, and leathery condition of the skin. So long as any trace of this persists, the

disease which occasioned it is not cured, and will recur very readily on slight provocation. Eczema, elephantiasis, and lichen ruber planus are the conditions in which it is most commonly present.

II.—Subjective Symptoms.

The presence of these may at times be learned by a careful consideration of the objective. *Pain* is not a common accompaniment of skin diseases. It is found as the precursor of herpes zoster, or remains behind when the vesicles or the ulcers which at times succeed these are healed. It also is associated with the ulcerations of scrofuloderma or true tuberculosis of the skin, and then presents a burning character. In the irritable ulcer, too, it may be found due to an exposed nerve fibril *Tenderness* of the skin if touched is met with occasionally, as in some pustular affections.

Heat and *burning sensations* are present not unusually in inflammatory diseases, especially in acute eczema, or during the congestive stage of a disease. *Itching* is very common, and its presence or absence in certain cases is a most valuable aid both in diagnosis and treatment.

Formication, or the cutaneous impression, resembling that produced by the creeping of numerous insects over the surface, is sometimes met with. Both itchiness and formication depend on nerve irritation, which may arise from some cause within the body, or from some influence acting from without. The latter seems to be due to irritation rapidly propagated from one nerve fibril to another.

Tingling is almost pathognomonic of urticaria, and is due to the sudden congestion of and exudation into the skin; and in the same way *prickling* sensations are complained of in that variety of papular eczema known as prickly heat or lichen tropicus. In this the sudden congestion is limited in individual area, though the total amount of surface involved is large.

From the study of those manifestations on the surface, by the presence and peculiarities of which we recognise skin diseases, the transition to the consideration of classification would seem to be simple and natural; and, were we able to construct an arrangement on an exact basis, this would be so in fact. But the external appearances, however valuable and indispensable these are, aided in some instances and degrees by the subjective symptoms, make up but one part of the whole. Essential as the skin is to the welfare of the economy, it is but a single organ; and in its disorders, and playing a prominent part in their causation and maintenance, other organs are frequently involved, and have to be taken into account in grouping the dermatoses. The progress of our knowledge has not hitherto enabled us to estimate this relation, or even sometimes to comprehend it at all, and thus a full natural classification of cutaneous diseases is unattainable; and we must fall back in the meantime on the best substitute. This, which must be a working classification, may not be the best even which can for the present be constructed, and errors, inevitable and acknowledged, must be submitted to, because to avoid these an amount of technical knowledge must be assumed not ordinarily met with. Yet all the classifications attempted have contributed something towards the final end—a perfect one, which will no doubt be formed some day. Thus, to mention some of the more prominent, we have first that of Galen and Mercurialis, which may be described as regional, for they divided skin diseases into those which attack the head and those which affect the rest of the body. Now, this was the first or earliest suggestion that exposure and other influences have a decided effect on the morbid appearances presented. Lorry again attempted to divide them into local or idiopathic, and constitutional or sympathetic; and were this really so, a decided advance would have been made. But even in local, or apparently local diseases, it is impossible to exclude predisposing or maintaining causes; and from apparently the same or similar constitutional states different diseases may

arise. Purely anatomico-pathological classifications have in like manner been attempted; all the component parts of the skin itself, its glands and appendages, have been looked on as liable to individual diseases, and these named accordingly. But we as yet know too little how and in what special part each disease begins, to enable us in all cases to fix this with the certainty necessary for classification. And, besides, the elements of the skin are so intimately combined, and act and react on one another to such an extent, that disease beginning in one part speedily involves other and related ones. Willan, the influence of whose teaching is still felt in all systems of classification, sought to build upon the various primary lesions; and, the initiatory efflorescence once determined, he thought it would be possible to attach a distinctive and unmistakeable name to the disease. But it is not always possible to trace back a skin disease when seen for the first time, after perhaps an entire change has come over it, to the primary lesion; and thus, with the reservation already made, Willan's system has passed into oblivion and disuse. The mixed system of Hebra, which has now held its ground for more than thirty years, is the best for all practical purposes; and the highest proof of its value is that all recent modifications have been unable to shake themselves clear of its influence. Very valuable, as examples of careful scientific work, are the systems of Auspitz and that of Bronson on the same lines; but they are not useful practically, though well calculated to show the relations which skin diseases unmistakeably possess, and to throw additional light both on their causation and their rational treatment. One of the most complete systems on the basis of that of Hebra is the one formulated by Dr. Bulkley of New York, and this is the one which is here given, and is recommended as being full, and in the main clear. I have reproduced it almost exactly as Dr. Bulkley has drawn it up, but on some minor points it might be added to, and possibly improved.

Classification of Diseases of the Skin.

Class I. **Morbi cutis parasitici.** Parasitic Affections.
,, II. **Morbi glandularum cutis.** Glandular Affections.
,, III. **Neuroses.** Neurotic Affections.
,, IV. **Hyperæmiæ.** Hyperæmic Affections.
,, V. **Exsudationes.** Exudative or Inflammatory Affections.
,, VI. **Hæmorrhagiæ.** Hæmorrhagic Affections.
,, VII. **Hypertrophiæ.** Hypertrophic Affections.
,, VIII. **Atrophiæ.** Atrophic Affections.
,, IX. **Neoplasmata.** New Formations.

Class I.—Morbi cutis parasitici. Parasitic Affections.

A. Vegetable.
- 1. Tinea trichophytina (trichophytosis) (*parasite — Trichophyton tonsurans*)
  - corporis (tinea circinata).
  - capitis (tinea tonsurans).
  - barbæ (sycosis parasitica).
  - cruris (eczema marginatum).
- 2. Tinea favosa (favus) (*parasite—Achorion Schœnleinii*).
- 3. Tinea versicolor (chromophytosis) (*parasite—Microsporon furfur*).
- 4. Actinomycosis.

B. Animal.
- 1. Phthiriasis (pediculosis)
  - vestimenti
  - capitis
  - pubis

  (*parasite—Pediculus*).
- 2. Scabies (*parasite—Acarus scabiei*).

Class II.—Morbi glandularum cutis. Glandular Affections.

A. Diseases of the Sebaceous Glands.
- I. Due to faulty secretion or excretion of sebaceous matter.
  - 1. Acne sebacea
    - oleosa
    - cerea
    - cornea

    (seborrhœa).
    - exsiccata (xeroderma).
  - 2. Acne punctata
    - nigra (comedo).
    - albida (milium).
  - 3. Acne molluscum (molluscum contagiosum).
- II. Due to Inflammation of sebaceous glands with surrounding tissue.
  - 4. Acne simplex (A. vulgaris).
  - 5. Acne indurata.
  - 6. Acne rosacea.
  - 7. Acne varioliformis.

B. Diseases of the Sweat Glands.
- I. As to quantity of secretion.
  - 1. Hyperidrosis.
  - 2. Anidrosis.
- II. As to quality of secretion.
  - 3. Bromidrosis.
  - 4. Chromidrosis.
- III. With retention of secretion.
  - 5. Dysidrosis.
  - 6. Sudamina.

Class III.—Neuroses. Neurotic Affections.

1. Zoster (herpes zoster, zona).
2. Pruritus.
3. Dermatalgia.
4. Hyperæsthesia cutis.
5. Anæsthesia cutis.
6. Dystrophia cutis (trophic disturbances).

Class IV.—Hyperæmiæ. Hyperæmic Affections.

- A. Active.
  - 1. Erythema simplex
    - idiopathicum.
    - traumaticum.
  - 2. Roseola.
- B. Passive.
  - 1. Livedo mechanica.
  - 2. Livedo calorica.

Class V.—Exsudationes. Exudative or Inflammatory Affections.

- A. Induced by Infection or Contagion, and due to a Specific Infecting Virus.
  1. Rubeola (morbilli, measles).
  2. Rubella (rötheln).
  3. Scarlatina.
  4. Variola.
  5. Varicella.
  6. Vaccinia.
  7. Pustula maligna.
  8. Equinia (glanders).
  9. Diphtheritis cutis.
  10. Erysipelas.
- B. Of Internal or Local Origin.
  - I. Erythematous.
    - 1. Erythema
      - multiforme.
      - nodosum.
    - 2. Urticaria.
  - II. Papular.
    - 3. Lichen
      - circumscriptus.
      - marginatus.
      - planus or ruber.
    - 4. Prurigo.
  - III. Vesicular.
    - 5. Herpes
      - febrilis.
      - iris.
      - progenitalis.
      - gestationis.
  - IV. Bullous.
    - 6. Dermatitis herpetiformis.
    - 7. Pemphigus
      - vulgaris.
      - foliaceus.
    - 8. Pompholyx (cheiro-pompholyx).
  - V. Pustular.
    - 9. Folliculitis barbæ (sycosis).
    - 10. Impetigo contagiosa.
    - 11. Ecthyma.

- VI. Multiform, *i.e.*, erythematous, papular, vesicular, pustular, etc.
  - 12. Eczema.
  - 13. Dermatitis.
    - calorica.
    - venenata.
    - traumatica.
- VII. Squamous.
  - 14. Dermatitis exfoliativa (pityriasis rubra).
  - 15. Psoriasis.
  - 16. Pityriasis rosea.
  - 17. Pityriasis rubra pilaris.
- VIII. Phlegmonous.
  - 18. Furunculus (furunculosis).
  - 19. Anthrax (carbuncle).
- IX. Ulcerative.
  - 20. Ulcus.
    - simplex.
    - venereum.
  - 21. Onychia.

Class VI.—Hæmorrhagiæ. Hæmorrhagic Affections.

1. Purpura
   - simplex.
   - papulosa.
   - rheumatica (peliosis rheumatica).
   - hæmorrhagica.
2. Hæmatidrosis (bloody sweat).
3. Scorbutus.

Class VII.—Hypertrophiæ. Hypertrophic Affections.

A. Of Pigment
1. Lentigo.
2. Chloasma.
3. Melanoderma.
4. Nævus pigmentosus.
5. Morbus Addisonii.
6. Xeroderma pigmentosum.

B. Of Epidermis and Papillæ.
1. Keratosis pilaris (lichen pilaris).
2. Ichthyosis.
3. Cornu cutaneum.
4. Clavus.
5. Tylosis (callositas).
6. Verruca
   - vulgaris.
   - senilis.
   - acuminata.
   - necrogenica.

C. Of Connective Tissue.
1. Scleroderma.
2. Sclerema neonatorum.
3. Morphœa.
4. Elephantiasis Arabum.
5. Dermatolysis.
6. Frambœsia (or yaws).

D. Of Hair.
1. Hirsuties.
2. Nævus pilosus.

E. Of Nail.
1. Onychogryphosis.
2. Onychauxis.

Class VIII.—Atrophiæ. Atrophic Affections.

A. Of Pigment.
1. Albinismus.
2. Leucoderma (vitiligo).
3. Canities.

B. Of Corium.
1. Atrophia cutis
   - maculosa (maculæ atrophicæ).
   - propria.
   - linearis (striæ atrophicæ).
2. Atrophia senilis.

C. Of Hair.
1. Alopecia.
2. Alopecia areata.
3. Trichorexis nodosa (atrophia pilorum propria, or fragilitas crinium).
4. Moniliform hairs.

D. Of Nail.
Atrophia unguis.

Class IX.—Neoplasmata. New Formations.

I. Benign New Formations.

- A. Of Connective Tissue.
  - 1. Keloid.
  - 2. Fibroma (molluscum fibrosum).
  - 3. Xanthoma (xanthelasma, or vitiligoidea).
- B. Of Granulation Tissue.
  - 1. Lupus.
    - vulgaris.
    - erythematosus.
    - verrucosus.
    - 3. Scrofuloderma.
    - 4. Syphiloderma.
    - 5. Mycosis v. Granuloma fungoides.
  - 2. Rhinoscleroma.
- C. Of Blood-Vessels.
  - 1. Nævus vasculosus.
  - 2. Angioma (telangiectasis).
- D. Of Lymphatics.
  - 1. Lymphadenoma cutis.
  - 2. Lymphangioma cutis.
- E. Of Nerves. Neuroma cutis.

II. Malignant New Formations.

1. Lepra { tuberosa / maculosa } (elephantiasis Græcorum).
2. Carcinoma { epitheliomatosum (epithelioma and rodent ulcer). / papillomatosum (papilloma). Paget's Disease of Skin.
3. Sarcoma { idiopathicum. / pigmentosum (melanosis).

While this classification is, in my opinion, an excellent working one, it has not been strictly followed. Diseases naturally related will be found grouped together, but a reference to the index will indicate their position in the volume.

CHAPTER VI.

FUNCTIONAL DISORDERS OF THE CUTANEOUS GLANDS.

In considering these, it is essential to bear in mind that though there exist in the skin two distinct glandular structures, one secreting an oily, the other a watery fluid, yet, when obtained for examination, what we have to deal with is generally a mixture of both. In situations like the palm of the hand, where there are no sebaceous, but only sweat glands, the secreted material is greasy, the perspiratory glands here, and very likely elsewhere also, taking up the *rôle* of cutaneous lubricants. In some of the affections which are now to be considered it is doubtful if we are correct in styling them disorders of one or other class of glands exclusively. While the term in common use has therefore been retained, it must not in all cases be held to indicate everything which should be comprehended under it. With this limitation, then, the fatty secretion of the skin may undergo a double alteration. Its secretion by the sebaceous gland, and its excretion from it, may be changed from what is natural, and, besides this, the product of the gland may be lessened unduly, or abnormally increased. The first morbid condition to be studied is—

Seborrhœa, which consists in the production and accumulation of whitish or yellowish scale-like masses, made up of epidermic cells impregnated with altered sebaceous matter, or of an oily coating upon a part of the skin which is in general, in

other respects, healthy. There are two varieties of the complaint,—a comparatively dry form, where the epidermic scales are charged with the more solid constituents of the sebum, the stearin or margarin, in which the epidermic element preponderates, and a form in which the olein of the sebum is in too large a relative quantity, and stands on the surface in minute drops. The symptoms and the results vary according as the parts implicated are or are not covered with hair. The *scalp*, both in infants and in adults of both sexes, is by far the most frequent seat of the disease, and there alone is it productive of any really serious consequences. In the infant it is but a perpetuation of that free production of oil and more rapid epidermic regeneration, which goes on during intra-uterine life, probably as a result of the macerating effect of the warm liquor amnii. The seborrhœic masses are most apt in infants to accumulate first and most extensively in the neighbourhood of the anterior fontanelle. Even when these are washed off they soon reproduce themselves, but a popular prejudice against "meddling too much with the open of the head," a remnant of imperfect anatomical knowledge, is often the cause of the thickness and hardness which the masses attain. When the accretions are removed the surface beneath is seen to be pale and slightly moist. At times it is reddened, or even eczematous. These latter appearances are due to the irritating effects which the secretion, become partially rancid, has exerted.

In adults also the drier form of seborrhœa is much more common on the scalp than the oily. In them the typical kind is that in which there are masses of thin, dirty white or yellowish bran-like scaly particles, easily loosened, and feeling and looking greasy. If of old standing it may become aggregated into a thick, cheesy-like mass. But it occurs also as glancing white, hard, shining particles, which fall over the clothes in showers when the hair is brushed, and which constitute the most common kind of dandruff. This latter form not infrequently owes its origin to a superficial chronic dry eczema, and is described as

pityriasis capitis. Auspitz regards this latter form as an atrophy of the epidermic formation, and not as a seborrhœa, yet under the microscope the products in both cases are similar, the amount of oil present being relatively greater in the one than the other. In either case the growth and nutrition of the hair suffers sooner or later; the masses of scales starve the hair; it becomes thin and lustreless, and baldness eventually is induced. Unna[1] thinks that the dryness of the hair is due to blocking of the hair follicle; the greasiness of the scales to the accumulation of the secretion of the coil glands within the upper layers of the epidermis. This is supported by a case where on a large scar on the back, left by the actual cautery used fifty years before, for some spinal affection which resulted in paraplegia, there was seborrhœa sicca, though the hair follicles were gone and the cicatrix was smooth and destitute of lanugo. The same condition affects the other hairy parts of the face—the eyebrows, whiskers, and beard—but from the stronger growth of the hairs, and their deeper implantation in the skin, these are less apt to fall. The following is a good example of well-marked seborrhœa.

1. L. C., aged seventeen, came to me with the following history. His father, a professional man, of fair complexion, suffered from dandruff when a young man, and became early bald, so that now, though not much over fifty, he had long had no more than a fine down on all parts of the scalp above the level of the ears. Seeing the same symptoms manifesting themselves in his son, he was desirous that the loss of hair should, if possible, be arrested. The lad was strong and active, and not anæmic. He had dark brown hair, as yet normal as regards healthy lustre, and thick, except just on the temples, where there was already a slight perceptible thinning. On parting the hair there were seen numerous yellowish greasy scales thickly scattered over the head, and these in part trespassed a little beyond the line of hair as a yellowish red, dry, scurfy ridge.

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, December 1887.

The condition had some resemblance to psoriasis, but was neither so red, so elevated, nor so scaly, and on scratching the patches with the finger the scales came away readily, leaving beneath a surface hardly even moist, and not bleeding. The treatment recommended was to wash the head daily with a dilute solution of soft soap in alcohol and warm water, and when dry to rub into the scalp an ointment of tannic acid, ʒi. to the ounce. This was faithfully continued for two months, the intervals between the washings being gradually increased, and at that time the state of the head and hair was that of perfect health.

On the face seborrhœa presents itself both in the dry and the oily phase; the latter is the more common, the former the more conspicuous in its results. The sides of the nose, the cheeks, the temples, and chin may all be attacked, but the two first are the most frequent situations. The superabundant greasy material accumulates and dries, and thus thin cakes of dirty, yellowish brown, friable material incrust the alæ of the nose, and extend on to the parts adjoining. When this mask-like formation is raised carefully up fine tags are seen to dip from its under surface into the gland-ducts. A degree of hyperæmia often accompanies this, presenting the aspect of reddish blotches covered with a greasy coating. These chronic hyperæmic patches may persist after all trace of seborrhœa has disappeared from them, as reddish or yellowish-brown, more or less faint stains.[1] On the faces of elderly people especially, this may not only simulate malignant disease, but is actually associated with a superficial form of epithelioma. To illustrate this form of seborrhœa the following case is appropriate:—

2. M. C. (nineteen), engaged in a milliner's showroom, had in consequence to stand and bustle about a good deal. She, like many other shop assistants, suffered from leucorrhœa and some degree of menorrhagia, otherwise her health was good. The skin at the side of the nose was reddened, and oily plugs, or

[1] Brooke, *British Journal of Dermatology*, June 1889.

more decided flakes of sebaceous matter, occupied the mouths of the glands, or spread over the reddened skin. A considerable amount of itchiness accompanied this. The condition disfigured an otherwise comely and well-coloured face. In order to stimulate the glands and cleanse the face she was directed to wash the parts with a dilute solution of soft soap in alcohol and warm water at night, and, after drying, to apply an ointment of tannic acid. In the course of six weeks the skin looked clean, but the apertures of the glands were still too open, and the skin was a deeper red than was desirable. The lotion and ointment were discontinued, and instead, washing with ordinary soap was substituted, and an ointment composed of a couple of drachms of a saturated solution of boroglyceride in glycerine, with six drachms of cold cream, was directed to be smeared on night and morning. She was not seen again for some months, and then the sole remaining trace of the disorder was a little excess in redness on the parts first affected. This disappeared when a mild sulphur ointment had been employed for a short time at night, followed by dusting with oleate of zinc and French chalk in the morning, to correct any over-stimulation by the sulphur.

The purely oily form is met with alone or in association with other diseases of the skin, as acne and comedones; or on the nose with dilated venules and rosacea, and then the face has a shiny appearance. The skin in such cases has not its healthy transparency, but the complexion is pasty, and the integument appears thick and flabby. The face never continues long clean, since particles of dust floating in the air attach themselves to its surface too readily. The oil can often, especially in warm weather, be seen to ooze as minute drops from the pores. The condition waxes and wanes with the state of health, and as the digestive and excretory functions are commonly also sluggish, these exert considerable influence in perpetuating this state of glandular perversion. An attack of erysipelas or of variola is sometimes the precursor. Unna is of opinion that this oily

seborrhœa is really a diseased or perverted condition of the sweat and not of the sebaceous glands. In acne these latter are plugged. He thinks the oily material of the sweat is in excess, as in hyperidrosis the watery. Examined microscopically, the oily drop is found to consist of minute globules of oil floating in a watery medium, but no cells.

Seborrhœa, both in the dry and oily form, is met with on the trunk, and presents much the same features as on the face. On the back, especially between the scapulæ, greasy masses, at times having almost a reddish hue, accumulate. The downy lanugo in such cases may be excessive, and then commonly indicates a strumous, or at any rate a delicate constitution. The skins of old people often become covered with dry, dirty looking scales, and the same thing occurs in the course of wasting diseases, such as phthisis or diabetes.

Seborrhœa is frequently the starting point of eczema, especially on the scalp, whence it may spread to the neck, face, and limbs. A compound process results, and to this Unna assigns the term seborrhœic eczema. The influence of seborrhœa on various eruptions is well marked. It is commonly found associated with lichen marginatus, though this seems something more than a "seborrhœa corporis" as many authors hold.

The characters described should enable us to make the diagnosis with ease in most instances. When occurring on the scalp it may resemble a late stage of chronic eczema or a subacute dry form. There will still remain some degree of infiltration in the former, and in both the itchiness is more annoying, —it becomes a prominent instead of a subsidiary feature. The history will usually enable us to arrive at a correct conclusion. Psoriasis limited to the scalp, as it sometimes is, may more closely approximate seborrhœa, yet it is seldom that psoriasis is so uniformly disposed all over the head, and when the scales are scratched off by means of the finger-nail, the tender corium beneath, bleeding from minute pore-like apertures, is easily exposed. Here, too, history comes to our aid, as it is indeed

rare that psoriasis has been all along confined to the scalp. In doubtful cases a thorough exploration of the sites known to be the favourites of psoriasis must be instituted. The diffused or disseminated form of ringworm, and an early or recurrent stage of favus, can only cause error till the aid of the microscope is called in, and the same means enables us at once to discriminate between dry seborrhœa of the trunk and tinea versicolor, to which, at the first glance, it may bear a likeness.

The causes which lead to seborrhœa have been incidentally touched on already. Anæmia, a general poorness in the nutritive constituents of the blood, is the most common. This may arise from anything which tends unduly to drain off what should be devoted to building up or maintaining the system. Thus all exhausting discharges, even though not excessive, will, if long persistent, induce that state of fatty degeneration which lies at the root of many cases of seborrhœa, and though the original cause may have been arrested, the result as regards the skin glands may remain. That form which succeeds the various zymotic or acute inflammatory diseases usually spontaneously disappears with returning health, and especially with a restoration in the number of red blood corpuscles. This is well seen in the seborrhœa associated with early syphilis, or that following enteric fever. Sometimes no evident cause can be found, or merely an hereditary predisposition, yet in these cases, were we able to have the true life history of the individual laid bare before us, we might usually be able to fix on a definite reason for the faulty action of the glands and epidermis; like acne, the disease tends to begin about puberty, though it may be some years later ere it has assumed such dimensions as to attract notice. That form which tends to develop into epithelioma in the elderly arises from senile degeneration of the glandular epithelium.

In considering the treatment of seborrhœa, these forms associated with some former drain on the nutrition will be found most rebellious; and while both iron and arsenic are useful in repairing the damage and enriching the blood, these medicines

should be combined with all other means calculated to rebuild the organism and give tone to the system. Sea baths, if attainable, do good, fresh air and exercise are essential. Small doses of arsenic in the compound iron mixture, or Blaud's pills, usually do most good. Cod liver oil is frequently valuable, and a plan suggested by Sherwell, which consists in chewing the seeds of linseed as a means of simply introducing that oil into the system, has proved of service. By no mere internal treatment can we hope to cure the disease, though we may thus render a recurrence less likely,—a result almost certain to happen unless the anæmic state can be removed. The hereditary forms, if seen early, and if the health of the person affected is good, are much more easily dealt with. The first procedure in the local treatment is to soften and then remove the accumulations of greasy masses. For this purpose the head must be well saturated with oil—olive, almond, or oil of ergot, as recommended by Shoemaker,—the oil being poured in among the hair, and the head then covered with a flannel cap. It is well to continue the oil-packing for two days before washing the head with Unna's over-fatty potash soap and warm water, as in this way the scales can usually be completely removed, and the scalp laid bare. Washing brings away a number of hairs already partially loosened, and this increased fall alarms the patient, unless previously warned and reassured. When the head has become dry, the natural oil of which the skin has been deprived must be replaced artificially, and at the same time means must be taken to prevent as far as possible the reproduction of the sebaceous and epidermal accretions. For this purpose several agents are available. That on which I have most reliance is an ointment of tannin.

℞ Acid. Tannici . . . . ʒi.
Glycerini puri . . . . quant. suff.
Vaselini . . . . . ʒi.
Cerati Galeni . . . . ʒi.
——M.

This should not be smeared in quantity over the hair, but the latter divided by means of a comb with widely placed teeth, and the ointment in small amount spread along the furrow thus produced. By parting the hair in various directions, the pomade can be diffused all over the scalp without producing to any great extent that stickiness which has been sometimes complained of when this unguent is used. For a time, which varies under different circumstances, the washing and the application of the pomade should be repeated daily. Then, as the seborrhœa becomes less, the washing should be less frequent, though the pomade should still be applied each day. When the disease has been so far relieved that a weekly washing is sufficient, a dessert-spoonful of the Equaloid or fluid extract of Quillayia bark, mixed with a wash-hand basinful of warm water, may be used to replace the over-fatty potash soap, should it prove too drying. This thoroughly cleanses the hair and scalp, but does not impart that disagreeable sensation of tension left behind by ordinary soap. Other ointments may be used instead of that of tannin. Precipitated sulphur in cold cream, in the proportion of one in ten, has been praised by Unna, and sometimes acts well. It has the disadvantage of blackening any silver ornaments or coins worn or carried about. Besnier employs naphthol —20 grains to the ounce—as a pomade, especially in the pityriasis form of seborrhœa. The following lotion, applied twice a day will be found of use. ℞—Acidi Salicylici ; Resorcini, ana ʒss. Aq. Cologniensis, ℥i. Glycerini, ℥ij. Aq. Distill. ad ℥vj.—M. Care should be taken to avoid all pomades which are not perfectly fresh and sweet. Vaseline is apt to dry and bleach the hair in these circumstances.

We now possess in lanoline a material which, suitably diluted with almond or sesame oil, and perfumed if desired, can be used as a pomade, and which replaces the natural secretion more perfectly than any other. This should be continuously employed after the cure of the disease, combined with a weekly shampoo with the infusion of Quillayia bark.

Oily seborrhœa of the face needs general tonic treatment, while it is benefited also by the application of a lotion of perchloride of mercury, in the proportion of one or two grains in a half-pint of almond emulsion.

Seborrhœa of the body is best treated by washing with Unna's over-fatty basic soap and warm water, and the subsequent application of—resorcin, fifteen grains; lanoline and theobroma oil, each two drachms; and sesame oil, half an ounce.

The opposite state of the skin—that in which the lubricating material is defective—is less common. As old age comes on, and the skin, like other organs, undergoes atrophic changes, it frequently puts on a leathery aspect, and, with the transparency, it loses the unctuousness of youth and middle age. This is not invariably so, as even in extreme senility the skin may still feel soft as satin. Even in childhood we meet with xerodermic skins—harsh, staring, and file-like. This is commonly but an expression of a congenital morbid condition, as in ichthyosis or prurigo. We have the same as an acquired condition more or less extensively distributed, as in psoriasis, erythematous eczema, and lichen.

Deficient oiliness of the skin may be artificially induced through the action of such remedies as continuously remove too much fatty material. This is seen in the hands of washerwomen exposed to the influence of strong soaps and washing powders, or in certain trades, where alkalies, or sulphur, or carbolic acid are used. The palm of the hand becomes inelastic, rough, and thickened, and tends to crack, while the fingers cannot be fully extended. Cold drying winds cause similar effects to a less degree on exposed parts in some persons.

Though there are no means by which we can directly stimulate the secretion of the sebaceous glands, yet pilocarpine, through its power of provoking perspiration, which Unna has shown to be a skin lubricant, renders the surface less harsh, and, as is well seen in the treatment of prurigo, can restore its velvet-like feel. Baths, especially sulpho-alkaline, followed by vaseline inunction,

also mellow the skin remarkably, while in those forms of dry skin due to cold winds, diluted glycerine, or the glycerine of starch, or glycerine jelly, are all advantageous both in protecting and in relieving.

Too little attention is paid by the aged in many cases to systematic bathing. For them, tepid bran, gelatine, or starch baths are useful and beneficial. The inunction of lanoline, combined with olive or almond oil or lard, tends to restore the pliancy of the skin so deficient in advanced age, and also to conserve the heat, which the old readily part with and less easily regain.

Having said so much about excessive and diminished secretion and excretion of oily material, we must next consider several interesting forms of disease which arise from disordered excretion from the sebaceous glands, or forms of fat retention. In its simplest form this may be caused by mechanical obstructions to the escape of sebum from the duct. Tar or dirt may block the apertures, or the contraction of cicatrices may obliterate the perviousness of the duct, or some qualitative alteration may take place in the sebum itself. Each of these needs consideration. First, then, come—

Comedones.—These constitute the black spots or puncta seen commonly enough on the faces, especially the nose, cheeks, temples, or chins, of persons of both sexes between puberty and thirty. Instances have indeed been recorded of their occurrence in children, but these are rare, and the limits of the ages named are those usually observed. They may also be found on the chest and back, and, while met with alone, are common in association with acne and oily seborrhœa. When in great numbers they produce an appearance like grains of gunpowder embedded in the skin. The face looks dirty, greasy, and as if unwashed, yet it would be wrong to accuse many of the sufferers of want of personal cleanliness. Comedones, with or without concurrent acne, make up what is popularly known as "a bad complexion." They come and go, the sluggish condition

of the skin of which they are the expression being frequently combined with inactivity of various internal organs, as the liver, or the imperfect performance of the menstrual or digestive functions. Their direct cause may be from working among petroleum or tar, or from the external application or internal administration of the latter. Sometimes they occur in persons whose skins secrete an unusual amount of fatty material, but who neglect ablution. In general there is an abnormally firm coherence of the epithelial cells constituting the horny layer. The muscles of the skin, whose office it is to keep the sebaceous glands regularly emptied, are flabby and deficient in tone, and the skin itself is inactive, muddy, and untransparent, with more or less of a chlorotic look about it. The cause of the black point is partly from the darker hue assumed by the sebum when retained in the dilated duct, the epidermic cells becoming horny, partly from dirt and dust which adhere to the plug. Unna has made this a special subject of study. When the comedo is squeezed out it emerges like a worm, the little thread being much longer than one would have supposed it could be. The disease usually begins at an age when lanugo hairs are being rapidly shed and renewed. The opening of the sebaceous gland is often set at an obtuse or even a right angle to the wall of the hair follicle, into which it opens at a point where this is most constricted, near its neck. Hence the sebum escapes with difficulty if the tone of the muscles is defective, and the lanugo hairs help to plug the orifice, and are found in numbers in the secretion when forced out. The *Acarus folliculorum* seems a harmless concomitant. A curious variety is the double comedo, originally described by Ohmann-Dumesnil.[1] This is met with chiefly on the back, where two black dots like the deuce on dice are set at regular intervals. On lateral pressure a plug, dark at both extremities, is forced out, and a fine probe can be passed through the opening left. The condition seems physiological.

[1] *Journal of Cutaneous and Venereal Diseases*, February 1886. *Monatshefte für praktische Dermatologie*, 1888.

In order to cure the comedones and improve the complexion, we must correct what may be erroneous in the system generally, and especially relieve the face by systematic ablution of the whole body with soap and warm water. The comedones themselves are to be squeezed out by the pressure of the nails or watch-key, or a little instrument made for the purpose. The face must then be carefully washed with soap (best with Eichhoff's resorcin and salicylic soap) and hot water, and dried with pretty smart friction, which the skin will commonly stand well in such cases. When not very severe or numerous, the following paste, recommended by Unna, will be found useful in preventing a recurrence.

℞ Kaolini	℥ss.
Glycerini	ʒiii.
Aceti	ʒii.
	—— M.

The eyes are to be kept closed while it is being applied. Sulphur may be added to this if a more active remedy is needed; or the following formula of Zeissl's consisting of equal parts of precipitated sulphur, glycerine, rectified spirit, carbonate of potash, and ether, may be employed for a time, and discontinued if it causes too much reaction. In either case these pastes are to be used only at night, washed off in the morning, and the face dusted with equal parts of oleate of zinc and finely powdered talc, or with Taylor's cimolite.

A further stage in the process of occlusion of the sebaceous gland is reached in *milium*, a condition in which we find small round yellowish or whitish non-inflammatory elevations situated in the skin, just beneath the epidermis. The minute tumour closely resembles a millet seed in size and appearance. They are usually found where the skin is thin and the subcutaneous fat little developed, as on the eyelids or neighbourhood, the cheeks and temples, also on the penis and scrotum, and on the inner surface of the labia minora. They feel hard, and roll easily

under the surface of the skin. They form slowly, and then, having attained a certain size, remain unchanged, though sometimes, according to Sir Erasmus Wilson, the cuticle above them is gradually thinned by the continuous process of exfoliation, the mass of hardened sebum extrudes and is rubbed away. They are only disfiguring, and cause no unpleasant sensation. They are most common in women, and though met with in children and in young people, are generally first seen after middle age. One case of what may be called agminated milium has come under my notice. It occurred in a rather pale girl of fourteen. On each cheek were patches of considerable size, consisting of closely set milia, on a reddened base. They differed in no way from the discrete except in number. The contents have been found to become calcareous, and in a case recorded by Wagner, and another reported in *The Lancet*, a colloid degeneration took place.[1] The cause must be something which occludes the orifice of the sebaceous gland, and the contents, prevented from escaping, dry up into a hard pearly mass, while the secreting cells atrophy. The obstruction may be due to scars. In Hebra's and Kaposi's experience a superficial inflammation of the skin, as erysipelas or pemphigus, has led to their formation.

The treatment is simple. The covering layer of epidermis having been divided with a sharp knife, or snipped off with scissors, the little seed-like content is turned out and removed. Very little bleeding occurs, and no scar results.

There are many circumstances connected with *molluscum contagiosum* which deserve careful study, and there are few diseases of the skin which possess more interest. I have weighed carefully the evidence as to its anatomical nature and mode of origin, and this seems to preponderate on the side of the hair follicles, if not of the sebaceous glands, and it should thus be classed alongside the affections of the latter. The shape of the little tubercles met with in molluscum contagiosum bears

[1] Fully discussed by Phillipson in *Monatshefte f. p. Derm.*, 1st July 1890.

a pretty close resemblance to a miniature mother of pearl shirt button, as has been pointed out by Mr. Jonathan Hutchinson in his admirable clinical lecture, and this similarity will prove of much value in diagnosis. With this there is usually a wart-like aspect, though the idea conveyed to the mind is rather perhaps that of a waxy or horny prominence than of an ordinary wart. This is round, and rises abruptly from the surface, the top is flat on the whole, though there is in general a central depression, or more than one, leading into a cavity, from which, in the larger specimens at least, some whitish material can be squeezed. The consistence of these little elevations is firm and solid, and their colour most commonly a shade of pink, though the smaller ones may nearly resemble the tint of the skin of the part. There may also be a slight areola round each papule, though a distinct and sharp projection is the rule. Sessile at first, and often through their entire course, the tendency to project from the surface may lead to the tubercle becoming pedunculated, or assuming more or less the shape of a mushroom.

The tubercle may inflame and ulcerate superficially, or, in consequence of the inflammation being moderate in amount and of a slow and chronic character, there may arise considerable induration round the ulcer so formed, obscuring the diagnosis in a marked degree. From the exposed inner surface a semi-horny material may sprout, and indeed this degeneration of a molluscous tumour is one of the modes of origin of cutaneous horns.

The situations on which these tubercles grow are peculiar. They are never met with on the palms or soles, where there are no sebaceous glands. They are most common on the face and the eyelids, but they are also seen on the neck, breast, limbs, genital organs, and near the anus, and they have been encountered on the hairy scalp. They are, as a rule, few in number, but are now and then found very extensively distributed. While certainly more common in the young, their

occurrence is not limited to any age. Left to themselves, their duration is self limited; some drop off, the peduncle becoming strangulated, inflammation or ulceration brings others to a termination, while many undergo a process of involution or retrograde metamorphosis. Though, unless inflamed, their presence causes usually no annoyance, sometimes a certain amount of itchiness is associated with them.

The disease is a rare one, at least in Scotland, while it seems to be fairly common in London. On the Continent of Europe it is infrequent, and it appears also to be seldom seen in America. It is found in the country as well as in town, and though met with chiefly among the poorer classes of society, and in them particularly affecting the ill-cared-for and badly fed, occasional examples crop up in the better ranks. The majority of authors follow Bateman, who first described it, in believing in its contagiousness. While most of the endeavours to inoculate it have failed, there have been at least three successful, with an incubation period varying from three to six months.[1] But there are numerous instances in which several members of the same family were simultaneously affected. It cannot, however, be looked on as very contagious. What the medium of contagion is has not, so far, been discovered, unless it is a gregarine or psorosperm, as Darier among others holds. The disease stands alone, unless, as Mr. Hutchinson suggests, the verrugas of Peru—Frambœsia—are allied to it. This idea of Mr. Hutchinson's was published by him long prior to the paper by Charlouis[2] on Frambœsia, which in some respects strengthens the view of a possible relationship.

The following curious case, which resembles both molluscum and frambœsia, is unique, as far as I have been able to discover.

3. B. M., aged four months, was sent by Dr. Porteous of Kirkcaldy to Professor Douglas Maclagan, who kindly gave me an

[1] *Leloir et Vidal, Traité descriptif des Maladies de la Peau*, 1889, p. 32.
[2] *Vierteljahresschrift für Dermatologie und Syphilis*, 1881.

opportunity of examining it. She was the fourth child of healthy parents. The others are also healthy. When born and till six weeks old, was well. There then appeared on one thigh a small, round, flattened, pale pink spot, which soon enlarged. This was the size of a large pea when seen, soft, and almost fluctuating, but it evidently contained no fluid. There were now many of these tubercles, which were pale reddish pink, and rose abruptly from the surface, with a very slight reddish areola around each. They were scattered with tolerable symmetry over both lower limbs, also on the arms and shoulders. On the face the disease had reached its greatest dimensions. There were thus large warty-like growths covered with thick greenish scabs, quite dry, and projecting fully a quarter of an inch above the surface. There were none on the chest or abdomen. The tubercles varied from a pin's-head to a large pea in size. Some looked like a blind boil. They had no dimple or depression in their centre, were, on the contrary, somewhat rounded, and their longest diameter was transverse to that of the limb. They itched, especially at night. Some had already disappeared, and these had left no scar—merely a purplish stain. I could not get a drawing executed, as the parents came on a Sunday, and returned home the same day, but I excised one of the tubercles, and made sections of it after hardening. The rete and horny layer were normal. The meshwork of the corium was opened out, and to some extent infiltrated with leucocytes, while the vessels were dilated and choked with blood corpuscles. There were, in fact, evidences of inflammatory action; but in the corium were irregular cyst-like spaces, containing a granular structureless material. The walls of these were composed of condensed cells, and outside were several layers resembling the rete Malpighii in structure. Two sections showed the apertures of these cysts on the surface, and this coincided with that of a hair follicle, so the probable origin of the cysts was in a hair follicle, or in a sebaceous gland—most likely the former. I did not see the case again,

but Dr. Maclagan told me some time after that the eruption had quite disappeared in course of some weeks.

As the infective medium in the contagious cases has not been identified, we cannot determine the cause of the disease. Wilson and Hutchinson have both encountered cases where the frequent use of the Turkish bath seemed to have some influence in its production, and one similar instance has come under my notice.

Observers are quite agreed as to the structural aspect when seen through the microscope, which bears a close resemblance to that of a racemose gland. There are lobules divided by septa, and opening into a common centre, which is in communication with the central aperture or depression. The little roundish body is seated in the corium, from which it is separated by condensed connective tissue. The cells next the envelope or the septa are oblong, set like those of the rete at its deepest part. More towards the centre there are large epithelial cells, with many nuclei and peculiar bodies, which have been termed molluscum corpuscles, at one time thought the media of contagion. Those latter are egg-shaped, have no nuclei, and present a slightly glancing appearance, and are sometimes more or less enveloped in an epidermic sheath. These are regarded as degenerated epithelial cells, which have become vacuolated, and the lacunæ filled with an amyloid or colloid substance. Similar bodies are found in situations where epithelium has remained long quiescent, as in cases of old comedones, of epithelioma; and objects somewhat similar are met with in emphysema of the lungs.

These appearances being admitted, the cause of the formation of the tumours has been variously explained. From their invariable absence from the palms and soles, where neither sebaceous glands nor hair follicles are found, as well as from the structure, it would seem most natural to trace their starting-point from a gland. Plate V. fig. 2, in Leloir and Vidal's work shows with much exactness that the first change of a morbid

character takes place in the sebaceous gland. Virchow long ago suggested the hair follicle, and Thin has been successful in tracing the earliest beginning of the disease to it. There is, however, either hyperplasia of the rete, or a condition resembling this, and as the internal root-sheath is derived from the rete, this may be the point of commencement. As Sangster has shown, the granular and corneous layers of the epidermis are represented in the growths, and the hyperplasia of the rete may be reactive, and not primary. The process, once begun, tends to spread laterally, and two growths may coalesce. Whether the disease may begin from the exterior in the epidermis, apart from a hair follicle, can, I think, scarcely be regarded as proved. This view would bring molluscum into close relationship with the peculiar tumours described as met with in the child B. M., and which certainly began in the hair follicles.

The diagnosis of molluscum assumes some importance, because in certain situations, and under some conditions, it may be and has been mistaken for a hard chancre. The tumour may extend in breadth, and the edges may assume a degree of density, which, especially if seated on the breast in females, and near the nipple, or on the genital organs, may lead to the suspicion of syphilis. In such cases the inspection of other regions may reveal tubercles more clearly molluscous, while the absence of multiple adenopathy, or of any cutaneous rash or implication of the mucous membranes, will generally assist us in coming to a correct conclusion. This will be much aided by careful study of the Sydenham Society's illustrative plates, the most complete and life-like of those in any atlas. Less important is the resemblance to papillary warts, while molluscum fibrosum is only a source of confusion from its name.

In treating molluscum contagiosum it must be borne in mind that the disease tends to disappear in course of time spontaneously, and therefore no heroic measures are necessary or admissible. I have found that if each little tumour be touched with pure liquid carbolic acid, and then brushed with flexible collo-

dion in the manner recommended by Dr. Walter Smith for the lesions in acne, they usually very rapidly disappear. Only occasionally is a second application after an interval of ten days necessary. When molluscum occurs on the eyelids, the little tumour must be excised.

If the tumours are small and very numerous, an ointment of sulphur ℥i., creosote mxx., and simple ointment an ounce, may be rubbed in twice a day. This does sometimes seem to cause their disappearance.

Seborrhœa will be found illustrated in Plate V. of *Duhring's Atlas,* and in Tafel I. of *Neumann's Atlas.*

CHAPTER VII.

FUNCTIONAL DISORDERS OF THE CUTANEOUS GLANDS—*continued.*

When the number of the sweat glands is considered, their universal distribution, the mode in which their secretion is influenced by conditions of the nervous system and by changes of temperature, the relation their activity bears to that of the kidneys and the lungs, and the part they play not only in the nutrition of the skin, but in regulating the bodily heat, it is not surprising that their functions may be disturbed in several ways. These may be reduced to four.

(1) Excessive production of perspiration.

(2) The development of fœtid odours apparently in connection with qualitative alterations in the sweat.

(3) Peculiar changes in the colour of the perspiration.

(4) Abnormal diminution of perspiration.

Sometimes one or more of these variations may co-exist.

(1) *Excessive production of Perspiration.*—This is met with either as a general hyperidrosis, or as a more or less localised excessive flow. The general form scarcely, perhaps, comes under the head of a skin disease. The facility with which perspiration is induced in different individuals is not a constant feature. Any circumstance which reduces the systemic vigour proportionally favours the ready flow of perspiration. The more nearly the state resembles that of the trained athlete, the less rapidly does sweating take place. The more perfect, in fact, the balance between all the functions, the less readily will any

extra exertion, within the personal equation of strength, cause undue outpouring of watery fluid from the skin. When, however, there has been a disturbance of the heat regulating centres, when the condition of the body has been for a time that of fever, the instability of the centre persists after the temperature has become normal. Sudden and profuse perspirations are apt to occur, and at times as suddenly cease, producing then by the evaporation a sensation of chilliness in the relaxed skin. A loss of the natural balance best explains the phenomenon of the sweating of convalescence; for as this advances, the profuse perspirations become rarer and rarer in their occurrence. Whether they are to be regarded as critical or as excrementitious is less certain, but they do seem to act as a safety valve in relieving tension.

(2) *The development of Fœtid Odours.*—While general hyperidrosis interests from its bearing on intricate physiological questions, the local form is that chiefly connected with dermatology. This may affect those parts of the body where the sweat glands are particularly large, as in the axilla or on the perineum, but where sebaceous glands are likewise present; or it may be confined to localities where there are sudoriparous glands alone, as on the palms and soles, or, as in rachitic children, the head only may perspire too freely. When the palms suffer, the hand is habitually too moist, less so in winter perhaps than in summer, but soiling and staining the gloves, macerating the skin, and rendering it tender. In some such cases I have noticed a peculiar delicate pinkiness of the inner side of the palm, and the ball of the little finger and thumb. The skin looks sodden, and may even be spontaneously painful, and in severe examples the sweat can be seen to ooze from the pores. In a case related by Cutler,[1] an ounce of moisture dripped from one hand in five minutes.

Such persons are nearly always in a lowered state of health, are sometimes hysterical, and often nervous. They are usually females, and some mental strain or shock has perhaps preceded the onset of the complaint.

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, Feb. 1888.

It is well to bear in mind also that this moist condition of the hands is peculiarly apt to be found in those addicted to alcoholic excess. Not the man who has an occasional bout of drinking and then remains sober for a considerable period; but the man or woman who is "nipping" all day, or who absorbs in small quantities at a time an amount of stimulant beyond what can be burnt up or excreted from the system, and who takes this apart from or between meals, as well, perhaps, as with them. The skin of the chronic alcoholic becomes flabby, readily soaked, and permeable. There is an imperfect combustion of fat, which accumulates in the tissues, especially in the integument, imparting to it a velvety softness, almost pathognomic of potatory habits.[1]

When the feet are affected, the disease becomes a distressing one, not only to the sufferer himself—for this is, with the exception of one class, most common in men. The class of females in whom it specially prevails are female domestic servants, especially maids of all work. But it is most unpleasant to those brought into association with the sufferer; for with this form there is combined a heavy, nauseous, disgusting odour. This odour is due partly to the putrefaction of the sweat and the decay of the thickened epidermis, and to the accumulation of this between the toes, but more particularly to the fact that the coverings of the feet, the stockings and shoes, soak up this profuse perspiration, and thus the decomposition and the evolution of rancid odours proceed more rapidly. Thin has found in these a profusion of a bacterium, which he has termed the *Bacterium fœtidum*. This probably finds a favourable nidus in the putrefying sweat, or it may be, as he suggests, the active ferment. When the feet have been uncovered and carefully washed, the smell ceases for a time.

The feet feel disagreeably moist and clammy from the maceration of the epidermis, walking is painful, and in severe

[1] Lauder Brunton, "*Physiological Action of Alcohol*": *Practitioner*, Jan. and Feb. 1876.

and neglected cases the skin inflames and peels. "Indeed, in four cases out of five, pain and tenderness of the feet, not rheumatic, is due to the over-sensitiveness of a constantly macerated skin, the result of local sweating." In many of these cases the condition termed flat-foot will be found, and serves in some degree to explain the causation. The constant apposition of the whole surface of the sole to the ground, instead of this being removed from contact in the centre by the plantar arch, prevents the access of air, and renders walking laborious, thus increasing the natural perspiration directly. But this will not explain all: we must assume an undue degree of penetrability on the part of the epidermis in such individuals to exist, sometimes connected with anæmic states, and promoted in others by the use of goloshes and other waterproof foot coverings, while yielding of the tendon of the flexor longus pollicis contributes to the production of flat-foot.[1] The sweat in such cases is sometimes unduly alkaline or neutral, and the smell is quite different from the acrid penetrating odour of the highly acid sweat of rheumatic fever.

We may have this heavy, unpleasant odour developed in cases where the sweat is not much, if at all, more freely secreted than is natural. In such persons the axillæ in particular emit this strong smell. Under the influence of sexual excitement, too, peculiar odours are produced in some persons, but it is not ascertained if the sweat glands alone, and not the sebaceous also, are involved.

The abuse of tea, or even its habitual employment in the case of certain individuals, favours bromidrosis. Mr. Hutchinson states that he has long been familiar with the fact that tea makes the feet cold, and cites a case where cold perspiration and icy-cold feet invariably followed its imbibition. The coldness is caused, he believes, by contraction of the arteries, for the feet shrink at the same time. Alcohol has a precisely opposite effect.[2]

1 Ellis, "Preventive Surgery of Flat-foot": *British Medical Journal*, 30th June 1888.

2 *Archives of Surgery*, July 1890, p. 56.

Another phase of local hyperidrosis is where one side of the body perspires exclusively or more abundantly than the other. In one case which came under my notice in a man of twenty-four suffering then from general exfoliative dermatitis, at times one side, at times the other, perspired. Tested carefully on one of these occasions, the temperature of the dry or non-sweating side was 99°, of the moist, 98·6°. According to the statements of the man, for about a day before the perspiration began to flow, the axillary glands on the side destined to become moist swelled and became painful. Sweating lasted about twelve hours, and both sides never perspired at the same time. This anomaly disappeared with the cure of his dermatitis. The following instance, related by Fox, illustrates the unilateral form. A young comedian affected in this way assumed the *rôle* of an old man, the face being made up to suit the part. As the play proceeded the merriment of the audience became excessive, and the unusual and apparently uncalled-for shouts of laughter which greeted his acting surprised and perplexed him. On retiring behind the curtain he found that the unilateral perspiration had washed the paint from one side of his face, which had thus presented to the audience the appearance of wrinkled age upon one-half and blooming youth on the other.[1]

The causes which lead to local excess of perspiration are quite unascertained. We can now directly stimulate the sudoriparous glands to over-action by means of pilocarpine, but the sweat so poured out is more watery than it is when produced by active exertion. Profuse sweats occurring during slow somatic death in pneumonia or pyæmia are connected with a vaso-motor paralysis, and an inactivity of the central nervous system. Local hyperidroses are also connected with a disturbance of vaso-motor control, but we cannot yet trace the links in the chain.

The treatment of simple hyperidrosis and that combined with the evolution of fœtid odours may be considered together.

[1] *Philadelphia Medical Times*, 23d August 1884.

Assuming a lower tone of the system generally, we must seek by every means to restore that. While too much wetting of the relaxed skin must be avoided, provided the demands of cleanliness are satisfied, the cold shower bath, if not otherwise contra-indicated, is an agent of great value. The shock should neither be too severe nor too prolonged, yet sufficient to cause a distinct impression. Belladonna and atropia to some extent and temporarily control the excessive perspiration: it is doubtful if they are ever curative. Local measures are as a rule more useful. The parts are to be kept as dry as possible, yet the reactive effect of very hot water is sometimes of advantage, the parts being bathed with it, at once dried, and then dusted with a powder composed of salicylic acid three parts, rice starch ten parts, and powdered talc eighty-seven parts. This powder without the previous plotting is of use. In addition, the inside of the stockings, which should be frequently changed, should be dusted with this powder or with powdered boracic acid, and each toe separated from its neighbour by placing in the interdigital space a small piece of salicylic cotton wool. Some also recommend that digital socks, that is, socks woven with a separate toe-piece for each, should be worn, but such would be apt to chafe the skin, and the insertion of the wool is better and simpler.

When these measures fail, as they often do, and the feet are the parts affected, the plan originally laid down by Hebra should be followed out. This consists in first thoroughly cleansing the feet by careful washing, and then enveloping each in strips of lint spread pretty thickly with the ung. vaselini plumbicum, to which from one-half to one per cent. of salicylic acid has been added. Pledgets of the lint covered with the same ointment should also be introduced between the toes, and to secure all in place a few turns of a cheesecloth bandage are necessary. Clean stockings and *new* specially easy shoes are to be worn, and in this way locomotion is possible. The dressings are to be renewed every twelve hours, and the action of the

salicylic acid watched, for while it causes the exfoliation *en masse* of the epidermis more rapidly, it may yet excite some irritation, and its addition to the ointment may have to be dispensed with.

When the dressings are changed the foot must not be washed, merely rubbed with a dry soft cloth, and dusted, if necessary, with French chalk or Taylor's cimolite before reapplying the lint.

In the course of a few days a thick brownish layer of thickened cuticle will be seen in process of peeling off from the parts previously affected, and when this has become quite separated the feet may, for the first time, be washed, though it is necessary to dust with the absorbent powder for some time. Hebra says that though one course of this treatment is not invariably successful, the complaint never, in his experience, has resisted a second.

From some cause this treatment does not seem to be equally successful in cases where the palms are affected.

Unna divides hyperidrosis of the feet and hands into two varieties, one, in which the parts are cold, and another in which they are warm. He recommends for this affection, when the parts are cold, that before the patient goes to bed he should bathe the affected parts with hot water to which has been added some irritating substance, such as camphor, mustard, or vinegar. Then, after drying, the part should be enveloped in an ointment which will cause hyperæmia, such as one of turpentine and ichthyol, each five parts, to oxide-of-zinc ointment, ten grammes. In the morning the ointment is to be washed off and the parts are to be rubbed with ice-cold water, the friction being continued till hyperæmia and warmness of the skin are induced; then the skin is to be powdered with a powder containing mustard flour. If the feet are affected, the stockings should be powdered before they are put on. Where the parts are warm, the hot and cold baths are to be omitted and ichthyol is to be used; lukewarm baths in the evening, followed by a two-and-a-

half-per-cent. ichthyol ointment, washing off with lukewarm water and ichthyol soap in the morning and leaving on some of the dry soap-suds, is the method of treatment. The epidermis may be rendered tougher, and the cure made more permanent, by the application to the palms or soles of the compound tincture of benzoin, its effect being watched, and not carried too far.

(3) *Changes in the Colour of the Perspiration* are among the curiosities of dermatology, but the cause of one variety seems now to have been pretty certainly ascertained. In some persons the linen or woollen material worn next the skin has been observed to be stained a red colour in the axillary region, and also, though more rarely, over the pubes. Axel Key was one of the first to notice that in such cases a peculiar fungus was to be found incrusting the hair growing in the axilla. This has been confirmed by various observers, and it would appear that the red tint is imparted to the sweat by the growth of bacteria, in some instances resembling the *Bacterium prodigiosum*. The presence of the sweat may be essential, or there may be some individual peculiarity in its character which may lead to the elaboration of pigment in a plant, possibly not infrequent in a colourless form in the axilla. Balzer has found that the parasite is not limited in its attachment to the hairs, but when epidermic scales are scraped from the inguinal and perineal regions in such persons the same zoogloea are found. The microbes attach themselves to the epidermis of the hair, more particularly to places where this is eroded or defective, and from thence they insinuate themselves into the substance of the hair. They form yellowish or glutinous masses, the individual microbes being sometimes transparent, sometimes coloured. Though the affected persons may be in apparent health, the weakly, lymphatic, and those convalescent from some exhausting disease, are more frequently attacked, and also those whose hair is reddish or fair. Whether any peculiarity in odour accompanies the red hue has not been stated. Of all local remedies tried, ether alone caused a *temporary* cessation of the red staining.

Perhaps some explanation of the occurrence of those red incrustations may yet be found from a study of the complaint known as "Piedra," met with in the district of Colombia, where hard, gritty nodosities, seen under the microscope to consist of a "honeycombed mass of pigmented spore-like bodies," are attached to the hair of the head. It is supposed to be due to the use of a peculiar oil, and the hair is said to have an acid smell. In the case of red sweat some peculiar acid decomposition of the sebaceous material may be the cause.

Sweat coloured blue, yellow, and blackish has been met with occasionally; but our acquaintance with the circumstances under which such perspiration is produced is too limited to enable any generalisation to be made. Much the same may be said of so-called bloody sweats, and of the excretion of urea by the sudoriferous glands.

(4) *An abnormal diminution in the excretion of Sweat*—the anidrosis of some authors—still remains to be noticed. This occurs as a symptom of some general diseases, as in the initial stage of fevers, where the dryness is explained by Unna as due to the swelling of the cutaneous textures, which thus close the slit-like opening in the band of Schrön through which the excretory duct of the sudoriparous gland passes. In diabetes mellitus the deficiency in perspiration is due to the excessive drain of watery fluid from the organism by the kidneys. It is a constant symptom in ichthyosis, due to a defective development of the sweat glands in the regions affected. In eczema in its erythematous and in its chronic forms, where there is much infiltration of the true skin, thus choking the ducts, and in like manner in prurigo, due here also to the consecutive eczema, in psoriasis, and in the anæsthetic form of leprosy, the same inactive state of the skin arises. In old age, with the atrophic changes which take place in the skin, the sweat glands become less active. Allowed inactivity of the skin in consequence of a want of personal cleanliness, and accumulation of effete epidermis, is another cause. In rare cases the skin for a

time ceases to perspire, causing distress and danger. A truly healthy skin cannot exist where the perspiration is not duly secreted, as its nutrition is promoted by the insensible perspiration. Hence a restoration of this should be attempted by means of warm baths, vapour baths, the Turkish bath, in suitable cases the application of dilute glycerine, and the employment of subcutaneous injections of pilocarpine. The influence of the latter is well seen in prurigo; for, while the dry, thick eczematous patches and areas at first do not respond, repeated injections affect these more and more, till finally the entire skin perspires, and the complaint is for the time cured.

So far no or but little anatomical change in the skin has resulted from the excess or diminution of sweat, but in certain cases more evident objective phenomena may appear.

When there is high temperature of the body, and more particularly during the course of one of the eruptive fevers, as scarlet fever or typhoid fever, or in acute rheumatism, or in association with some inflammations of internal organs, as pneumonia, the disturbance of the sudoriparous function leads to the eruption of small, clear, discrete vesicles, often pretty closely set, but which do not tend to run together. These are known as *sudamina*. They appear to consist of minute drops of sweat which have collected between the layers of the epidermis. Excessive perspiration does not seem to be necessary to their production. I can confirm the opinion expressed by Liveing,[1] "that they may occur in a perfectly dry and very hot skin, where the perspiration, so far from being in excess, was and had been deficient." In such cases the epithelium may accumulate and plug the orifice of the duct, and, when sweating occurs, prevent its exit. Their walls are at times so transparent that it is only by touching them that we can dispel the illusion that they are really not drops like dew standing on the surface. At other times their contents are milky, or the base of each is surrounded with a narrow areola of a reddish hue. In this

[1] *Handbook of the Diagnosis of Skin Diseases*, Second Edition, p. 193.

latter form the term *miliaria rubra* has been given them. It is, however, a merely accidental circumstance, and is caused by the more limited local congestion. The vesicular form of *lichen tropicus* is similar in nature, but is accompanied, as sudamina and miliaria sometimes are also, by troublesome prickling and itching.

Sudamina or miliaria are met with chiefly on the abdomen or chest. They are of no pathognomonic importance, and are now much less frequently seen since the treatment of febrile complaints by a cooler regimen has been adopted. An excellent illustration of sudamina is given in Neumann's *Atlas der Hautkrankheiten*, Tafel XIV. Their treatment consists in dusting them freely with the salicylic and talc powder.

I have spoken of the soddened look the palms sometimes assume in cases of hyperidrosis, but, besides this, deep-seated vesicles or bullæ may develop. These, when seated on the palm, resemble sago grains implanted in the skin. In the interdigital spaces, and along the sides of the fingers, these vesicles rupture readily, and tender abraded areas arise. The transition from this to true eczema is easy. On the back of the hand the disease may spread steadily, the advancing edge being vesicular, the included area pink, tender, and painful. Dr. Tilbury Fox has described this condition under the name of *dysidrosis*, and in his *Atlas of Skin Diseases*, Plate 5, has provided an illustration which will be recognised as a not uncommon type of eczema, occurring in neurotic or weakly persons, and associated with excessive sweating, or at least a constant degree of moisture of the hands. Mr. Hutchinson has apparently described the same condition under the designation of *cheiro-pompholyx*. Yet the following example shows that excessive sweating is not necessary.

4. M. L. U. Schoolgirl. Mother stout, indolent. Father dead; said to have been a very nervous man. Two uncles and an aunt on father's side are insane. Has had two previous attacks. The present one has lasted a week. Her mother told me that the hand became red, hard, and hot, and then blisters

formed on it. It was accompanied with a little itchiness at first, but this has ceased. The vesicles, which are found only on the palm and sides of the fingers, are rounded and full when small, but become flattened when several coalesce. The contents are milky, and their reaction alkaline. The hands do not sweat much. She looked anæmic, but was otherwise well. The hands were kept dry, dusted frequently with a powder consisting of equal parts of oleate of zinc and French chalk, with three per cent. of salicylic acid, and enveloped in salicylic wool. Easton's syrup was given internally. A fortnight later the hands were smooth and soft, and all trace of the disease gone, except a little between the fingers. She then went to the country for a couple of weeks, and when seen on her return was well.

An almost constant feature of this complaint is its tendency to recur, and it is chiefly seen during summer.

In such cases the application of drying and antiseptic powders locally, and roborant tonics internally, do most good.

On the hands cold starch poultices, containing a drachm of boracic acid to the pint, may be applied as a preliminary with advantage.

CHAPTER VIII.

ERYTHEMA MULTIFORME; ITS ALLIES AND VARIETIES

It is an unfortunate circumstance that the term erythema has been employed to designate several morbid appearances of the skin. It has been held to include a variety of superficial rashes seen chiefly in infancy, often set up by disturbances of digestion, or during the progress of dentition, and due to the readiness with which reflex action expresses itself on the child's integument. An endeavour has been made, with some amount of success, to include these under the general name of roseola, though this, again, has been sometimes regarded as synonymous with rötheln. A superficial and migratory form of erysipelas has been in like manner termed erythema, while the hyperæmia of the skin, induced by extremes of temperature, has been termed erythema caloricum.

When two surfaces of skin in fat persons are in constant apposition, the heat and moisture, aided by friction, occasion a superficial redness. This is accompanied by the production of a mucoid fluid, which by its decomposition further scalds the parts, rendering them hot and painful, and is apt to acquire a penetrating and offensive odour. This, to which the name *erythema intertrigo* has been applied, may arise spontaneously in such situations as the folds of the neck in babies, and under the pendulous mammæ in women; or from retained secretions, as in the axilla or beneath the prepuce; or in consequence of want of cleanliness, as on the nates or about the pudenda of

infants, from the contact of hard or foul and wet napkins. This must be carefully distinguished from the erythematous eruption seen in connection with inherited syphilis, by the associated symptoms.

More closely allied to the group of the true cutaneous erythemata are those congestions of the skin which are met with in certain individuals as a result of the introduction into the system of various drugs. Though in these cutaneous congestion may be looked on as the typical form evoked, the special idiosyncrasy on the one hand, and the particular drug on the other, serve to determine the kind of eruption which ultimately manifests itself. With the withdrawal of the drug, or its elimination from the system, the eruption in such cases finally ceases.

Erythema pernio is the term applied to the common chilblain met with on the hands and feet of persons who have a feeble peripheral circulation. These occur principally in winter, in raw, cold, frosty weather, and commence on the heel or sides of the feet, or on the hands, as reddish or purplish blotches, which cause the shoes to feel tight, and the fingers to become stiff and painful. They itch at particular times of the day, in changes of weather, and when the extremities become warm after having been exposed to cold. If neglected they inflame, blisters and ulcers form, and the latter heal with difficulty.

Lastly, there are erythemata met with in association with some of the infectious or constitutional diseases. Such are those known as erythema variolosum, the scarlatina-like efflorescence which may precede that characteristic of small-pox by one or two days. Then, again, the erythema diphtheriticum met with occasionally in diphtheria, and which has already thrown some degree of side-light on erythema multiforme. These must be regarded as angio-neuroses which have been produced by the action of the poison which circulates in the blood in the great vaso-motor centres. Idiosyncrasy in these also exerts an

important and modifying influence, the extent and degree of which has not hitherto been ascertained.

Apart from all these, there exists a disorder of the integumentary system to which the name of erythema multiforme may very properly be attached, whether we take into consideration the shapes assumed, or the variety of primary and of secondary lesions seen in different cases. There are certain points in which there is a more or less general agreement among the different forms.

First as to locality. There is exhibited a predilection for the backs of the hands as the most frequent site, next the lower limbs, and less frequently the trunk, while the face usually continues free. Symmetry again is, as a rule, observed, but this may not be absolute. The subjective symptoms are comparatively slight; itching or burning, if present, are not severe or long continued.

It has in nearly all its forms a marked tendency to recur, and this sometimes shows a seasonal type. The constitutional disturbance is commonly not severe, and neither the skin, nor — unless in exceptional cases — in any of the internal organs, does permanent pathological change connected with it take place.

A congestive condition of the throat and fauces has been seen as a premonitory symptom, and attention having been directed to this, the numerical proportion in which it occurs will by and by be determined.

In describing the features of the disease, a gradual rise from the simpler to the more complex, from the superficial to those forms which implicate the deeper cutaneous tissues, can be traced. *Erythema papulatum* and *tuberculatum* are those least complicated: while these may exist independently or simultaneously, they are not mere stages of progression, the papular passing later into the tubercular. The spots in these are rounded and well defined, elevated distinctly above the surface, somewhat flattened, and from the size of a pin's-head to that of

a fourpenny piece or more. In colour they are at first more or less rosy, but this passes into a purplish or violet shade, more particularly in the centre,—an indication of further pathological changes seen in other forms.

The eruption tends to perpetuate itself by fresh crops of spots which succeed the first, but each individual lesion fades in course of a few days, a red macule or some pigmentation remaining to mark where it had been.

Wherever else it may be located, this form is nearly invariably seen on the backs of the hands, though, as in the following case, it may be limited to the face.

5. J. J., twenty-six, constable, was sent to me by Dr. Littlejohn on 23d January 1886. A fair man, with healthy complexion, who never had had any form of venereal disease. Eight days since he had a sore throat, the result, in his opinion, of a chill when on duty. This lasted three days, and when it had quite gone—four days since—symmetrical red patches came out on the neck, near the angle of the jaw, on both sides, and spread. Two days since the bridge and sides of the nose became similarly affected. He stated that the blotches which appeared there had not enlarged since their first eruption. Some additional spots had shown on the forehead the day I saw him first.

On the sides of each cheek are gyrate rose-red lines one quarter of an inch broad, which enclose a more darkly pigmented area. This stained space extends down the neck for some distance on each side. There were no scales.

On the nose there were rose-red lines one quarter of an inch broad, also enclosing a space more deeply coloured. The eruption on the nose was in the situation and had much of the aspect of butterfly lupus—lupus erythematosus. The surface felt rough to the finger.

On the forehead there were some rounded patches, which looked a little like *Tinea circinata*, but scrapings from them contained no parasitic elements. There was no itching. A

ERYTHEMA MULTIFORME.

sketch was made within an hour, and while being done a blotch appeared on the forehead.

Next day the eruption was much less distinct, and in three or four days was gone.

There occurs in certain cases an involution of the centre of the papule or erythematous spot, with a corresponding extension at the margin, leading to the formation of a ring-like efflorescence, which, if seen only at this stage, appears as slightly elevated red or brownish-red circles. When these circles extend so far as to encounter others, the redness fades at the point of contact, and winding or gyrate lines result. This latter is an example of a law which obtains pretty widely in skin diseases, and which may be thus stated :—"When two patches of eruption spreading centrifugally come in contact, the part where they coalesce fades, while the uninterrupted portion spreads more rapidly than before."

Occasionally we find a series of concentric rings exhibiting variations in colour from yellow to red or purple, and from the semi-iridescence thus produced, caused partly by the variation in age of the circles, partly from changes in blood pigment effused into the tissues, in consequence of the intensity of the congestion or some individual peculiarity of the skin, the name *erythema iris* has been given to this. The rings may be formed from the enlargement of the circles in *erythema annulare*, with the consecutive formation of a fresh spot, which subsequently assumes the ring shape, in the centre, or from the formation of rings outside the spot.

6. Mrs. L. (twenty-nine) came to the Royal Infirmary early in 1885 with an eruption on her arm, which had come and gone for some years. There was a red, well-defined and raised ring, the inner margin of which was violaceous, and the included area darker than the normal skin was. Near it there was another patch smaller, the size of a sixpence, consisting of three concentric circles in various iridescent shades. The eruption itched at times. She was stout, looked well, but had chronic

metritis. This, however, was not the cause, as she had had the eruption before being affected with the metritis. She was ordered salicin, and the erythema faded, and had not returned when seen in August of the same year.

Recurrences are perhaps most frequent in erythema iris.

Such exhibit the tendency of erythema multiforme to spread laterally, the amount of exudation of serum into the rete not being sufficient to cause vesiculation. But sometimes the horny layer of the epidermis is separated from its attachment, and a vesicle or bulla results. This, after a duration of some hours, sinks in, more particularly in the centre, while the vesicle persists at its margin, the dusky violaceous hue is perceptible through the semi-transparent walls, and, the roof remaining tied down in parts, the eruption resembles a vaccine vesicle. These account for a good many of the cases of so-called *hydroa*. Mr. Hutchinson has shown that many examples of hydroa are really medicinal rashes due to the administration of iodine or bromine. Others are, however, but one phase of erythema multiforme, as in the following.

7. E. A. (twenty-eight), laundry-maid, who looked in excellent health, and complained of no illness, noticed on the back of the left arm some blisters, which became, she said, surrounded with a red margin. The blisters were small and clear, and were unaccompanied by itching. She had been ordered Blaud's pills, but has not taken iodine or bromine in any form. When seen for the first time, a fortnight after their first appearance, the vesicles were numerous on the backs of the hands, but occurred also on the arms. Higher up the arm they became less numerous but larger, and ceased midway between the elbow and shoulder. There was a clear flat vesicle, surrounded by a pinkish or rose-red areola, slightly elevated above the surface. This areola was round if single, but irregular when a group of several vesicles coalesced. On the backs of the hands the colour was pale red and the vesicles small, and in general aspect they were like bug-bites, but there was no history of such a mode of origin.

There were also some on the ears. The eruption was fairly symmetrical. No other parts of the body were affected.

Sometimes the blisters are closely set, as in a case of a man of middle age, who came to the Royal Infirmary on 18th October 1890. On the back of the hands were the characteristic blotches of erythema multiforme, in places presenting the play of colours of erythema iris, while on the sides of the neck, on an erythematous base, were many closely set, clear, tense, straw-coloured vesicles, from a shot to a small pea in size. The eruption was symmetrical, and was not accompanied by itching. It came out three days before. Ten days earlier he had had a sore throat.

The margin of the macule or papule in erythema multiforme may extend as a red elevated and hard border, bearing on it a wreath of such vesicles. A plate illustrating this rare variety will be found in No. 24 of the *Sydenham Society's Atlas*, where, however, the vesicular aspect is so far deceptive, for the margins were solid.

The transition from erythema iris to herpes iris is thus an easy one. Instead of rings of solid œdema forming concentrically, we have rings of vesicles developing out of erythematous rings, and permitting the tint of the subjacent cutis to be transmitted.

But these by no means exhaust the appearances seen in erythema multiforme. In some of the forms mentioned blood colouring matter is effused; but in the variety now to be described blood is poured into the tissues in considerable quantity. The disease known as *peliosis* or *purpura rheumatica* or *thrombotica* is merely a phase of erythema multiforme, modified by some condition of the blood or peculiarity of the tissues. In it we have maculæ, which do not disappear under pressure, are at first bright red, dark red, or blackish, passing eventually into brown, and which are wont to run a course of from three to six weeks from their first eruption to their final extinction. These spots first appear in the typical localities peculiar to

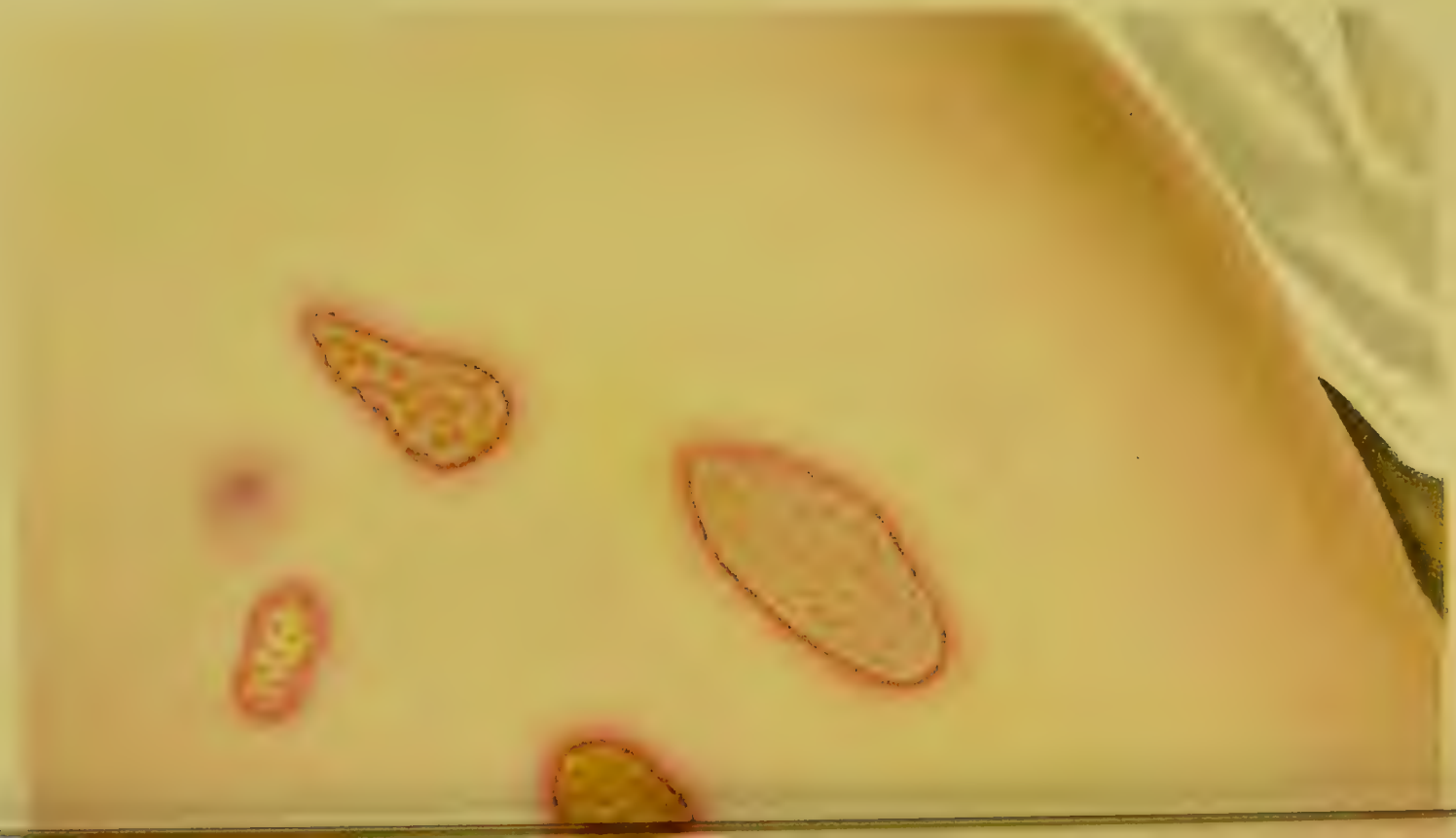
erythema multiforme. They are accompanied or preceded by pain in and exudation in and about the joints, of a description resembling the pain and exudation in acute rheumatism, and in their time of appearing often show a seasonal type.

Feverish symptoms and the dragging pain alluded to may precede the actual eruption of the hæmorrhagic spots for from three days to a week. The spots themselves come out suddenly, at first on the lower limbs, then on the upper, and later on the abdomen and chest. The patches are usually on a level with the skin around, but may be slightly elevated. They are seldom round, and never abruptly margined. The edges shade off gradually, and careful inspection with a lens sometimes reveals separate vessels filled with coagula passing out from them. Though the disease commonly terminates spontaneously in a few weeks, it may at times persist for months by the occurrence of relapses. It is seen most frequently in women, and, though perhaps chiefly in middle life, is met with both in children and young adults. In a lecture on this disease by Professor M'Call Anderson,[1] mention is made of cases where blebs or bullæ occurred in the course of the disease, and where solid elevations of the skin preceded it, thus linking it still closer with erythema.

As distinct from the graver forms of purpura, the hæmorrhages in peliosis rheumatica are all superficial, and do not occur in the deeper structures or organs, or in the mucous membranes.

Still dealing with the superficial forms of the polymorphic erythemata, there is a rare variety to which the name *erythema gangrænosum* has been attached from a peculiar necrobiotic change which takes place in the epidermis in its course. A very exhaustive account of this variety has been given by Dr. Colcott Fox in the *Journal of Cutaneous and Venereal Diseases* for January 1884, in which he records two cases, both of which he regards as instances of malingering. It is singular that all

1 *British Medical Journal*, 9th June 1883.



ERYTHEMA GANGRÆNOSUM.

the cases so far have been in women, and the situations affected by the eruption almost exclusively accessible parts. In one of the following instances there was conclusive proof that the disease was spontaneous, in the other there was no evidence to the contrary.

In the first, from whom the plate was taken, the patient was a woman of nineteen, sent to me by Dr. Calder of Leith, pale though plump, somewhat dyspeptic, yet not suffering from any organic uterine disease. She was under observation for nearly a year, part of the time being carefully watched in Sir Douglas Maclagan's Wards in the Royal Infirmary. Rosy, punctate patches of variable size, but usually round or crescentic, commonly unpreceded by pain, came out at intervals on the limbs, the chest, back, and loins. When recent the cuticle covering them was absolutely normal, smooth and glistening, so that they could not have been produced by any external agent. In course of a few days the surface became dry and hardish, a thin scab of parchment-like epidermis formed, and this eventually scaled off, leaving a pink macule which was slow in disappearing. Treatment had little influence, ichthyol internally seemed to arrest the process in some degree.

In the other case the patient was a girl aged eleven, only fairly well grown. The erythematous blotches appeared on the back of the hand, the wrist, cheek and forehead. Though exactly like the eruption of erythema multiforme at first, the further progress was different, as the centre became dry and brown so as to resemble a superficial burn, and this epidermic slough separated, leaving a reddish stain.

Neumann in his Atlas of Skin Diseases, plate 61, has represented a case similar to, but much more severe than mine, under the term of spontaneous gangrene of the skin. The exfoliated fragments were examined chemically by Ludwig, who proved that no corrosive agents had been used to produce them.

Elliot records a case where symmetrical gangrene followed severe protracted and excessive exertion, particularly in mov-

ing too heavy a weight. The lesions were distributed along the course of the gluteal nerves, there was marked anæsthesia, with tenderness on pressure over the spinous processes of the last lumbar vertebræ and sacrum. Eschars formed, were thrown off and healing took place.[1]

To this variety the term erythema gangrænosum can be very fairly applied, for there was not a trace of desquamation,—the epidermis died *en masse* over the areas affected. Probably this may be compared with urticaria pigmentosa, and may bear the same relationship to the more common forms of erythema that it does to ordinary nettlerash. They also approximate to the class of cases described under the name of "Raynaud's Disease."

The last form of erythema to be noted is one which has been separated in the text-books by a pretty sharp line of distinction from the polymorphic group. This may be traced in great measure to the teaching of Trousseau.[2] Careful examination of the facts on which he built the very decided opinion he expresses will convince every one that from them the identity of the forms might be much more fairly argued. *Erythema nodosum* is indeed ushered in by more definite constitutional symptoms; the lesions are more deeply seated, it is productive of more pain, and is more leisurely in its disappearance, and less apt to recur. All these, however, are mere questions of degree. Sir Erasmus Wilson considered the forms of erythema, including nodosum, as so closely allied, that, were it not for fear of creating confusion, he would have classed them together.[3]

After a varying, though short, prodromal period, usually from one to five days in duration, in which there is complaint of malaise, feverishness, and marked weariness on exertion, firm, oval, somewhat elevated reddish or purplish nodules appear suddenly on the front of the legs, on the arms, and even on the face. In one case the nodules were seated exclusively on the

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, Sept. 1888.
[2] *Clinical Lectures* (Syd. Soc.), vol. ii., p. 239.
[3] *Diseases of the Skin*, p. 144.

calf. They were very numerous, dull bluish-black in colour, and quite distinctly hæmorrhagic. The patient, a boy subject to epilepsy, was eight years old. In mild cases they remain limited to the legs, and their favourite situation is where the skin is separated from the bone by a very thin layer of soft parts. Their long diameter corresponds with that of the limb on which they appear.

These nodules are extremely tender on pressure, and look shining and tense, and seem as if they would go on to suppurate, which, however, they never do. Each patch lasts from a week to ten days, and in its course passes through the shades of colour which are familiar to us during the disappearance of a bruise or contusion. The total duration may be prolonged by the occurrence of successive crops of eruption, and with each exacerbation there may be a rise of temperature. While the nodes pale on pressure, they do not as a rule fade entirely, so that there is some degree of hæmorrhagic as well as mere serous effusion.

8. A lady, aged forty, had nursed very assiduously a child who had had scarlet fever, but who was then convalescent. She began to complain of sore throat; the tonsils and fauces were red and swollen, but not ulcerated. This went on for more than a week, and she felt ill, though with nothing more definitely the matter. Her left wrist now became painful; she thought she must have sprained it, though unaware of having done so. The right wrist next swelled and was painful, and there were fugitive pains felt in other joints, as the ankle, knee, and shoulder. The pulse was quickened and the temperature increased. A vivid red, tender, and firm nodule appeared now on the left knee, and was succeeded by others on the shins. Three days later there were nearly a dozen in all, varying from a florin to a fourpenny piece in size. Several were seated on the arms, and some were as high as the tip of the shoulder. Both wrists were much swollen, especially on the radial side, and the skin there exhibited a reddish blush. The urine was normal, and contained neither albumen nor sugar throughout. The

treatment consisted in the administration of 15 grains of salicin every six hours, and in painting the nodules with flexible collodion; but it was fully three weeks ere the eruption had finally disappeared, and health was restored.

In the following case the connection between erythema nodosum and erythema multiforme was clearly brought out.

9. Miss M., aged fourteen, a schoolgirl in good health, who had menstruated several times, began on the 14th June, when her period was about due, to complain of pains in the legs, with thirst, headache, and loss of appetite. A day or two after red blotches came out on the arms and legs; but she was not seen by me till the evening of the 19th. The tongue was coated with white fur; the bowels had been opened by medicine; her pulse was 100, her temperature 102·5°. On the legs, below and extending also a little above the knee, were oval and round patches of erythema nodosum, and similar ones occurred on the arms, especially on the outer aspect, as high as the shoulder. She was kept in bed, and on the 23d the pulse had fallen to 80 and the temperature to 99·3°; while the nodules were replaced by red macules, distinct in outline, but no longer tender to touch. On the 27th a fresh outbreak of nodules appeared on the face, arms, and backs of the hands, the latter situation being that specially involved in erythema multiforme. The pulse and temperature had risen slightly. She was put on moderate doses of quinine, and there was no further recurrence.

Although there exists considerable variation in the features of erythema multiforme, the diagnosis is not as a rule very difficult. The disease bears, perhaps, the closest resemblance to urticaria, with which indeed it seems pretty closely allied; but the absence of tingling or itching, and the greater persistence and less sudden development of the eruption, will serve in most instances to preserve from error. Lichen planus is found occupying the same situation on the backs of the hands, but the clinical characters are different. In some persons, both elderly

and young, in whom the local circulation is feeble, erythematous blotches are apt to appear on the fingers, especially the knuckles, and sometimes on the backs of the hands also, as well as on the toes, nose, and ears. These resemble chilblains,[1] but may occur at seasons when such are not prevalent, and persist for months. In some of these the tone of the tissues has been lowered by intense cold, and the vital *vis a fronte* lessened; or there is some change in the capillary walls.

The following case furnishes an example of the association of this "chilblain erythema" and erythema multiforme.

10. B. R., aged seventy-three, had in 1878 a prolonged attack of exfoliative dermatitis, from which he completely recovered, and, with exception of slight diarrhœa from time to time, he had remained well till the beginning of December 1884. He has some degree of mitral incompetency and a slow and intermittent pulse, the average in health being fifty beats per minute. He lives well, and drinks port to a moderately free amount, and has in consequence developed a tendency to gout, though the seizures have seldom been severe. In the beginning of December he complained of pain in the right great toe, and in the second and third toes also, and to a certain degree in the left great toe. This, he said, had been present for some time, but had much increased of late. The toes tend to assume a dusky purple hue, and feel cold. There was a small ulcer with exuberant granulations at the outer side of the right toe nail, extremely tender to touch. This ulcer was plainly due to the nail having been pared away from the side too freely. On the evening of the 5th December he felt his throat sore on attempting to swallow, and on the 6th the tonsils, arch of the palate, and back of the pharynx were seen to be congested. All over the back, abdomen, and limbs, there was a deep crimson-red papular rash. The individual papules were closely set, and felt rough and shotty. Each papule was about a pin's-head in

[1] Hutchinson, *Clinical Lectures on certain Rare Diseases of the Skin*, xxix. Payne, *Report on Diseases of the Skin, St. Thomas' Hospital*, 1884.

size. On the body the eruption faded on pressure, on the legs it did not. There was no itchiness, but the skin of the legs where the hæmorrhages had occurred was painful. He was directed to take 15 grains of salicin thrice a day, to remain in bed and have a calamine lotion applied. It should be noticed that the pulse had risen to 70 per minute, and the temperature to 101°. On the 7th the eruption had somewhat faded, but it recurred on the 9th, and, except the face and hands, was universal. The urine was normal. By the 11th the eruption as a papular erythema was gone, but the skin now showed a diffuse dusky redness, and there was some itchiness at night. In a couple of days more the skin was again natural, and there was no desquamation. The ulcer on the toe proved tedious, but it eventually became well, and the pain and purple hue of the toes ceased.

Lupus erythematosus, when it affects the hands, may, on casual inspection, bear some resemblance to erythema multiforme, as well as the chilblain erythema. But it is seldom limited to the backs of the hands without being also present on the face. When the history is inquired into, the duration is found to be much longer than that of any instance of erythema multiforme, while the patches themselves bear the dry rough scales characteristic of the disease, and not met with in erythema.

Less likely to be confused with any other form of disease are the elevations of erythema nodosum. They were simulated, however, in the following instance.

11. A lady, aged thirty-one, complained of œdema of the limbs, and of the presence on them of painful lumps. She dated the commencement of these symptoms from a time when she had much standing while nursing a relative. On examining the legs there was not much varicosity, but considerable puffy swelling, and numerous subcutaneous nodules resembling erythema nodosum, painful on pressure, and apparently thrombotic in their nature, could be felt on passing the hand over the skin. The heart was normal, and the urine contained no

albumen. She was ordered rest in bed till the limbs became soft, a diuretic and tonic mixture of acetate of potass, nux vomica, and cinchona, and careful bandaging as soon as she began to move about. The œdema disappeared under this treatment, but the nodules only finally subsided under frictions with oleum deelina, and continuance of the bandaging for a month longer.

The causes which tend to its production are more difficult to ascertain. Certain facts would lead one to seek for a connection with rheumatism and the rheumatic diathesis. Dr. Begbie[1] has pointed out that a frequent precursory symptom of erythema nodosum is a degree of pallor, a general cachectic aspect, with sluggishness of the bowels, and loaded urine, and a disinclination for bodily and mental exertion, all which he associates with the rheumatic diathesis. The frequent occurrence of some form of sore throat as an antecedent of the eruption, which has been already alluded to, has been remarked also as preceding the onset of acute rheumatism; and the pains in the joints and the limbs, which are also among the prodromata, have been regarded by some as of rheumatic origin. Trousseau, indeed, lays great stress on the evidence derived from the pains. But it is probably better for the present to hold with Liveing[2] that "they are constitutional symptoms that rightly belong to erythema nodosum," —and it may be added to examples of erythema multiforme, without expressing a decided opinion on their rheumatic nature.

But the common opinion of authors is, that whatever the cause may be which sets the morbid process in action, a disturbance of the vaso-motor system is aroused, and the disease has therefore been classed as an angio-neurosis. The primary lesions induced may be superficial or deep, may be merely congestive with serous exudation, or may have an hæmorrhagic element as well; or, as Bohn thinks with regard to erythema nodosum, and Hutchinson with peliosis rheumatica, that embolism in one, and

[1] *Contributions to Practical Medicine.*

[2] *Handbook of the Diagnosis of Skin Diseases*, Second Edition, p. 59.

thrombosis in the other, occur to a greater or less extent. Lewin[1] has traced some instances of valvular endocarditis to an antecedent erythema multiforme, and thinks that in this way the origin of some obscure cardiac valvular diseases may be explained. Begbie, too, had previously remarked the occurrence of endocarditis following closely on erythema nodosum. "The cardiac disease in such cases is insidious, and scarcely noticed at the time, but this experience still further corroborates the existence of a rheumatic taint."

Cæsar Boeck[2] relates three cases where angina preceded an outbreak of erythema multiforme and peliosis rheumatica. The inflammation of the throat, the character of which was in one not exactly defined, occurred eleven days before the erythema appeared.

In another instance the throat affection was a follicular tonsillitis. He points out the close regional connection between the nerves of the throat and the sympathetic and medulla oblongata. He alludes also to the relation between the throat symptoms in scarlet fever and the rheumatic pains so often associated with it, and again the erythematous eruption seen in diphtheria. He thinks the erythema may be excited by a chill acting on the vaso-motor nerves predisposed by the sore throat. The following is a rather peculiar instance of the erythema diphtheriticum.

12. D. G., aged thirty-six, a strong healthy man, who lives freely as regards stimulants, began to complain on the 15th May of sore throat. His face looked flushed, his tongue thickly coated with yellow fur, his breath fœtid. The uvula was swollen, deep crimson red, and hung low down, and the left side of the fauces was swollen and red. He was slightly feverish, but the temperature was not noted. As the bowels were confined, a drachm of pulv. jalap. co. was given, and gr. x. of salicin were directed to be taken every three hours, while the throat

[1] *Berliner klinische Wochenschrift*, No. 23, 1876.
[2] *Vierteljahresschrift für Dermatologie und Syphilis*, 1883.

was painted frequently with a saturated solution of boroglyceride in glycerine. On the 20th there was a well-defined ulcer on the left side of the fauces covered with a greyish-white slough; the uvula was less swollen; temperature 100°, pulse 78. The thirst and feverish symptoms and want of appetite had nearly disappeared. The chest and limbs were thickly covered with a bright scarlet punctiform rash; the face was desquamating in mealy flakes; the tongue cleaning, but showing neither the strawberry nor red raw appearance of scarlet fever. On the 22d the chest and limbs were desquamating freely; the tongue all but clean, its surface natural, not raw; temperature 97°, pulse 72. On the 23d the rash had quite faded, though the same branny desquamation continued, and the ulcer on the throat was not entirely healed. Though forbidden, his children came constantly into his room all the time of his illness, but were in no way affected.

The rash associated with diphtheria was in the following case more like peliosis rheumatica.

13. M. R., aged twenty, domestic servant, complained for some days of pain in swallowing, but not until the appearance of some spots on her lower limbs, the eruption of which was accompanied with pain, did she become alarmed. She was seen the day after. The arch of the fauces on both sides was then very red and much swollen, and on the back of the pharynx was a dirty yellow, firmly attached slough the size of half a crown, while the mucous membrane round it was deep red in colour and inflamed. On the thighs and upper parts of the legs were numerous dark purple petechiæ and macules which did not fade on pressure. There was no swelling of the inguinal or cervical glands, and there was, except loss of appetite, little evident constitutional disturbance.

Under repeated doses of salicylate of soda, and the local application of a saturated solution of boroglyceride in glycerine, she made an excellent and rapid recovery.

Wagner,[1] in an exhaustive paper, has strengthened the view

[1] *Deutsches Archiv für klin. Med.*, October 1886.

that purpura, in some of its forms, and erythema are closely related, but he includes urticaria with erythema multiforme and erythema nodosum in the same class. Thus, in purpura simplex, which, in his opinion, corresponds to urticaria, hæmorrhage is found in the skin only. In purpura hæmorrhagica blood is extravasated into the mucous membranes and internal organs: this contrasts with erythema multiforme. In peliosis rheumatica there are pains in the joints, and even articular swellings; this corresponds to erythema nodosum. "Why, in certain cases of tubercular erythema, hæmorrhage occurs so constantly, so quickly, and so severely, cannot be explained by the youth of the patients, nor yet from their anæmic condition. Some hitherto unknown cause exists, as in hæmorrhagic small-pox." Hæmophilia may be assigned, but there is as yet no proof afforded that such persons belong invariably to the class of "bleeders."

One other suggestion as to the nature of the erythemata is that all may be classed under a yet undescribed form of eruptive fever,[1] or represent the least grave phenomenon of the typical and abortive forms of the most diverse infectious diseases.[2] If so, the complaint, so far, has never been considered communicable.

When we review all that we have been able to gather as to the nature of erythema multiforme in the various varieties specified, there is little save the assumed rheumatic taint to guide us in the matter of treatment. As to the vaso-motor disturbance, our acquaintance with this is too vague and our remedies quite uncertain.

Though not, perhaps, exactly self-limited, the disease runs a course which eventually ends in recovery. The salicyl compounds, of which salicin, or salicylate of soda, which thanks to Professor Charteris, we can now obtain pure, and thus free from the disadvantages it undoubtedly had, and which led to my entirely abandoning its employment, do exert a beneficial

[1] Paul le Gendre, *l'Union Médicale*, October 27, 1883.
[2] Polotebnoff, *Monatshefte f. prakt. Der. Ergänzungsheft*, ii. 1887.

influence on the joint affections, and on the inflammation of the throat. I can scarcely agree with Wagner that salicin has no effect on the cutaneous lesions, though its control over them is by no means so manifest as that which it exerts on the pyrexia and pains. Trousseau, who at one time laid great weight on the value of quinine in removing the cuticular pains, came to the conclusion that these usually subsided spontaneously; but salicin is more powerful in that direction. Iodide of potassium which Villemin regards as a specific, has not proved so in my experience, and must never be prescribed where there is the least tendency to the formation of vesicles or bullæ. If given in such cases the eruption spreads very rapidly, may become hæmorrhagic, and assume a grave character.[1]

In erythema nodosum rest in bed is almost necessitated by the tenderness and pain, and should be strictly observed. Some good may also be done by painting the tubercles with flexible collodion. The heart should be watched for symptoms of endocarditis, not that we can do much should that declare itself, but we can certainly lessen its injurious effects by resting the heart as much as possible, and for long afterwards shielding it from strain of any kind. The care of the heart in convalescence from acute rheumatism has of late engaged the attention of the physicians, and apparently it should not be neglected in the course of recovery from erythema multiforme.

Salicin is equally indicated in peliosis rheumatica, and there the support, by a bandage to the limbs, of the lacerable vessels is desirable.

The principles of treatment in erythema intertrigo consist in keeping the parts most scrupulously clean, in separation of the surfaces, in soothing the irritation, and in preventing the decomposition of the morbid secretions. The regions affected should therefore be washed with a bland soap and hot water, carefully dried, and dusted with the salicylic talc powder, or with boracic acid, either plain or diluted with oleate of zinc or French chalk.

[1] Brocq, *Traitement des Maladies de la Peau*, 1890, p. 273.

A thin fold of absorbent or salicylic cotton wool should be inserted to prevent contact in such situations as admit of this being done. In some localities, as about the nates in children, an ointment suits better and affords more protection. The one selected may be the salicylic zinc or the boracic chalk. Lotions are less frequently useful, although at times black wash does good, or an occasional painting, commonly but once as a preliminary, with the solution of nitrate of silver in spiritus ætheris nitrosi, the formula for which, as for the ointments, etc. named, will be found under eczema.

In chilblains prevention is important. Warm soft woollen socks, and broad easy boots or shoes must be worn, to allow the circulation free play. Woollen gloves, particularly those made in Shetland, as specially cosy, are the only ones admissible in cold weather. When they do appear, painting occasionally with the solution of nitrate of silver mentioned above, followed by the salicylic zinc ointment gives most relief.

No atlas contains representations of all the forms described.

Erythema papulosum is well depicted as it occurs on the hands in Plate CC. of *Duhring's Atlas.*

Erythema circinatum in *Tilbury Fox's Atlas,* Plate I., *Wilson's Portraits of Skin Diseases,* Plates A, K.

Erythema marginatum in the *Sydenham Society's Atlas,* Plate XXIV.

Erythema and herpes iris, with bullæ, *Neumann's Atlas,* Tafel IV.

Erythema multiforme vesiculosum, *Tilbury Fox's Atlas,* Plate XXVIII, and Plate LXXII.

Peliosis rheumatica, *Sydenham Society's Atlas,* Plate XXXIX.

Erythema nodosum, recent on leg, *Sydenham Society's Atlas,* Plate XXI. Fading in same plate on arm; and also in *Duhring's Atlas,* Plate V, and in *Tilbury Fox's,* Plate III.

Erythema diphtheriticum typically in *Journal of Cutaneous and Venereal Diseases,* April 1883, to illustrate a paper on the subject by Dr. A. R. Robinson.

CHAPTER IX.

NETTLERASH AND ITS ASSOCIATES.

Alike from the caprice which it exhibits in its mode of appearance and its manner of departure, from the variety of the causes, internal and external, which evoke it, and from its connection with other cutaneous disorders, nettlerash deserves careful study. The familiar wheal produced by the sting of the *Urtica urens*, with the tingling sensations which accompany it, serves as the type of the disease. Some persons possess the power of producing by friction wheals artificially. This property has been termed Dermographia, it is most common in hysterical females, or in those subject to true urticaria.[1] The wheal consists of a reddened base, which may be round, oval, streak-like, or irregular, distinctly elevated above the skin around, and having a whitish centre. The red or pink portion first appears suddenly, then the centre becomes blanched, and this may extend till merely a narrow reddish line includes a large expanse of paler skin, or there may be more red portion and little white; indeed, at times there is no more than a bright red erythematous-like blush. Each wheal is small at the outset, but may rapidly enlarge, and by the union of several considerable areas of skin may be involved; but, as a rule, the duration of the eruption is transitory, though a persistent character may be impressed on it by the development of new wheals. While the wheals themselves are evanescent, their sequences are not always so.

[1] *Nouvelle iconographie de la Salpêtrière*, No. 6, 1889.

With the eruption of the wheals various subjective sensations arise, described as burning, tingling or itching, or pricking, and these may not wholly disappear with their subsidence, while they return in all their force with each fresh outburst of the disorder. The desire to scratch and rub the parts affected is nearly irresistible, and if indulged does not fail to aggravate the existing evil, and to produce more lasting symptoms in the shape of excoriations or even pigmentation.

All parts of the body may suffer, but the face is often a common situation, and also those regions where pressure from the contact of the clothes is exerted. There is usually, too, a rough sort of symmetry observed.

Urticaria may be acute or chronic, the latter the least common. In the acute form the eruption may be preceded by smart fever for a day or two, with headache, giddiness, and uneasy sensations about the heart. When previous attacks have occurred, these feelings may enable the sufferer to foretell what follows. There may be nausea or even vomiting, but so soon as the rash appears the symptoms are relieved, though now they are replaced by tingling or itching; and though the manifestation of the rash is commonly sudden, the individual wheals shift from place to place. The most severe example of acute urticaria which I have encountered was in the wife of a miner, a stout, otherwise healthy woman. In her case the distress she suffered before the wheals came out was almost alarming, and when these did develop copiously, the severe itching was described as light in comparison.

Acute urticaria may disappear after a duration of days, or a week or two, or it may merge into the chronic form, or from the first the disease may partake of the latter character. In it the symptoms of constitutional disturbance are absent or much modified. There may be little or no complaint of illness; indeed the health is not infrequently improved after an attack, presumably in the gouty. The wheals in the chronic form develop irregularly, disappear partially or completely for a time,

and anon reappear, lighting up the irritation of the skin each time afresh.

14. *Acute Urticaria, the wheals persisting longer than usual.*—A. B., aged fifty-five, a stout man, who lives regularly and pursues a moderately active employment, was seen during the height of the summer of 1884. He has had rheumatic pains, but not acute rheumatism. Ten years before had an attack of nettlerash, apparently due to eating shellfish. Had another attack during the spring of the present year, and another a fortnight ago, after having been overheated. Three days since he was slightly chilled, and the wheals came out during the night. The eruption has now become extremely extensive. On the chest are whole sheets of eruption, which tingle and itch intensely. The margin of these patches is dusky pink, and markedly elevated above the level of the skin, the centre not so much raised and paler in colour. He was seen in the afternoon, and stated that while some portions had faded since morning others had increased. Wheals are found on the hands, back, limbs, and feet. The temperature was 99·8°, the pulse 86; the tongue coated with fur; the bowels had been confined, but were now more regular in consequence of the administration of a mixture of rhubarb, soda, and euonymin. He had had weekly starch baths. The urine was loaded with lithates. He was ordered baths of sulphuret of potass followed by vaseline inunction, and a mixture of citrate of potash and colchicum, with light diet. He soon recovered, but, being anxious to prevent a recurrence if possible, he went to Leamington in the autumn, by my recommendation, to take a course of the bitter saline waters, as I thought that spa, of those available to him, the most likely to do him good.

15. *Chronic Urticaria.*—T. W., thirty-seven, a well-built man of reddish fair complexion, who was very strong till some years ago, when he was very much shaken in a railway accident. Since then he has had to give up riding to hounds and smoking. He takes, however, a fair amount of stimulants, usually a pint

of port at dinner and some whisky and water at bedtime. The latter he finds conduces to sleep, and when he gives up his alcohol he is liable to an inflamed throat. He is easily chilled, and he also flushes easily, and not as a result of meals, hot rooms, or stimulants. The bowels are rather free in action; urine at one time contained oxalates, is often loaded, at present is rather acid, but contains neither sugar nor albumen. He is of a rheumatic, gouty family. Wheals and vibices come out on shoulders and limbs, especially at night, and itch and tingle much. He was put on a regulated diet, and desired to drink claret only; to avoid friction after his morning tub, which he was fond of employing rather severely. A lotion, containing carbolic acid, glycerine, and alcohol, was directed to be applied at night, and a mixture of nitro-muriatic acid, colchicum, and calumba to be taken after meals. He was not again seen for three months, and reported himself no better, but was finally relieved by sulphur baths, followed by vaseline inunction and salicylate of soda, followed eventually by quinine and hydrobromic acid internally. In this case the shock of the railway accident may have led to nervous disturbances in a gouty, rheumatic person not over-careful as to diet, and thus developed the urticaria. He was well when seen a year later.

So far urticaria has been regarded simply as a morbid process, in which wheals alone are produced; but there is a close connection between the wheal and the inflammatory papule, and a combination of the two is seen in *urticaria papulosa*, or *lichen urticatus*. In this the wheals are small, and interspersed among them are numerous reddish or pale hardish papules, often more or less torn by scratching. According to Colcott Fox the wheal is primary, and has in its centre an inflammatory lesion, which resembles, but is certainly not always caused by, the puncture of an insect. When the wheal fades this persists as a papule.[1] Wheals are more prominent in the earlier, papules in the later period. The face is rarely affected, the chest, abdomen, limbs,

[1] *British Journal of Dermatology*, May and June 1890.

or loins being the most common situations. The skin is dry, often anæmic, and ill-cared for, the subcutaneous fat diminished, while the patients so affected are more frequently by far the poor than the well-to-do. Children in particular are the subjects of lichen urticatus. It is seen chiefly among dispensary patients, more rarely in those who frequent hospitals. Like scabies, for which it is sometimes mistaken, the itchiness is more annoying at night than in the daytime. The scratching acting on the ill-nourished and irritable skin may lead to the production of ecthymatous pustules, or occasional bullæ.

There is no doubt that closely associated with lichen urticatus is the malady or group of maladies which have been termed *prurigo*. "There is no one disease to which that name is applicable. What we witness is the power of various causes of local irritation to provoke pruriginous dermatitis in those in whom idiosyncratic susceptibility exists. Now it is the presence of pediculi which is the starting-point, in other cases of fleas, in yet others the occurrence of an exanthem, such as varicella, whilst in all the morbid condition, once initiated, is kept up by the patient's unwise efforts to relieve it, and by the mere fact of its having got possession. I repeat there is no such disease as 'prurigo,' a malady which has been described by a high authority as if it were self-existent, and alike causeless and cureless; but there are plenty of persons born with that peculiar irritability of skin, in which a variety of causes may evoke the symptoms to which that name has been given."[1] There can be no doubt but in these lines Mr. Jonathan Hutchinson expresses the true and common-sense view, and Gustav Riehl[2] has recently traced up the relationship between urticaria and Hebra's prurigo. While the first manifestations of prurigo are observed in infants, there are none of the papules seen in adults; in place of them, wheals of various forms and sizes are irregularly disposed over all parts of the body. Towards the end of the first, and in course of the second

[1] Hutchinson, *The Pedigree of Disease*, p. 61.
[2] *Vierteljahresschrift für Dermatologie und Syphilis*, 1884.

year of life, small wheals are seen interspersed among the larger, and these exhibit a predilection for the extensor aspects of the trunk and extremities. As the child advances in age, these smaller wheals increase in number with each fresh outbreak, while the larger become fewer, till, when the age of three or four is reached, only papules from the size of a millet to that of a hemp seed are seen, while wheals appear during none but severe exacerbations. These papules occupy the recognised situations in prurigo. They are found on the outer surfaces of the lower limbs, more particularly the legs below the knee, and also the extensor aspects of the upper extremities. The loins and gluteal regions are also affected, and sometimes the trunk; but the axillæ and the popliteal spaces always remain free. The papules, in colour, though they may be reddish or pink, as a rule scarcely differ from that of the normal skin. They may be few, or so numerous that the sensation to the hand is that of a nutmeg grater. All the subsequent changes are due to secondary lesions, and these may be summed up under the name of a chronic eczema, caused by severe and continued scratching. Excoriations, thickness and dryness of the skin, hairs broken off, and pigmentation are some of the results, while the inguinal lymphatic glands become swollen into large doughy masses. Urticaria, however, constitutes the first symptom, and becomes gradually developed into a typical prurigo. Now and then, even in adults, characteristic linseed-sized wheals can be seen, or by gentle friction the papules can be made to enlarge into such. While this special development of urticaria seems to have its home in Austria, cases quite identical occasionally occur in this country, and though the bad skin habit known as prurigo seems, like others, to be more persistent, or even incurable, when untreated at the outset, yet it does seem that a condition very closely allied can commence later in life, though then the urticarial origin is less easily traced. Still we must not confound this with the neurosis known as pruritus, nor with the itchy condition of the skin due to pediculosis. The heat of summer,

by increasing the perspiration and equalising the body temperature, usually mitigates the prurigo, and this is probably the sole necessary element in the peculiarity ascribed to Hebra's prurigo of being worst in winter. The thickening and leathery state of the skin, and its preternatural dryness in old standing cases, will as much as anything prevent the eruption of wheals, and determine the production of papules, described as subepidermic, which are held by those who regard prurigo as a disease *per se* to be the pathognomonic lesion.

Persons who have thus long suffered from prurigo have an anxious worn look, and seem older than they really are. The skin is wrinkled, and its subcutaneous fat is diminished. These characteristics are due to malnutrition, the effect of sleeplessness from the intense itching.

The anatomy of the papule met with in Hebra's prurigo has been studied by Morison[1] in all stages of the disease. There is infiltration which begins in the upper layer of the vessels of the corium, and this, extending upwards, surrounds the papillary vessels, enlarges the papillæ, and pushes up the epidermis, which has become thickened, as a small vesicle. From the depth of the infiltration the colour of the papule does not at first differ from that of the skin round it, and is indeed felt before it can be seen. At this stage, while not yet visible, there is no itching, and if treatment is commenced before the papules have become more distinct no itching appears. According to Leloir and Tavernier there is a species of cystic cavity developed in the prickle cell layer, sometimes in association with a sudoriparous duct.[2] Hans v. Hebra[3] regards the prurigo papules as the result of scratching, and not as the cause of itching.

Very singular are these forms of urticaria, where pigmentation remains for a longer or shorter time after the wheal itself has faded. This may follow wheals which are not unduly persistent,

[1] *American Journal of the Medical Sciences*, October 1883.
[2] *Annales de Derm. et Syph.*, No. 7, 1889.
[3] *Zeitschrift für Therapie*, No. 23, 1884.

but *urticaria pigmentosa*, as it has been called, is something more than this. In all the examples of this hitherto observed, the eruption was noticed during the first six months of life,[1] and is undoubtedly urticarial; but the congestion lasts longer than in an ordinary wheal, and fresh wheals are easily made to appear by friction, or may arise after emotional disturbance. Wickham and Thibault, however, state that there are cases in which there are no wheals or but faint ones.[2] In cases which exhibit a greater intensity, the wheals are more prominent, and have a firmer feel than normal skin, while the surface is wrinkled and nutmeg-like, being apparently bound down by strands of tissue which have resisted the pressure from beneath. After lasting from one to three weeks, these elevations subside, but the pigmentation, which is a special feature, persists. When the patches are pressed a yellowish or brownish stain remains, resembling chamois leather, and this colouring continues after the original congestion has disappeared. The pigmentation seems to be due partly to an increase of the natural colouring material in the deeper rete cells, partly to the breaking down of red blood corpuscles which have escaped into the tissues.

Though the nodular elevations are primarily round or oval, by the coalescence of several, forms of greater irregularity arise; and as the patches become older, they are less distinctly margined, so as to produce a mottling of the skin when they are numerous. As to locality, the trunk is early and markedly affected, then the limbs. The face does not so often suffer, nor do the palms and soles, but even these and the lining membrane of the mouth do not escape in severe cases.

The violence of the disease seems expended in infancy or early childhood; at all events, as years pass on the eruption of fresh patches occurs more rarely, though the entire disappearance of all the stains has not been observed in any recorded case. There does not seem to be any hereditary predisposition, nor is it

[1] Colcott Fox, *Med. Chir. Trans.*, vol. lxvi.
[2] *Annales de Derm. et Syph.*, October 1888.

associated with any cachexia or diathesis ; nor has it been traced to any disturbance of the liver. Though fairly healthy, those affected by urticaria pigmentosa are not very robust.

The peculiar colour of the spots, which varies from a pinkish to a yellowish-brown tinge, reminds one of the yellow patches in xanthoma multiplex ; and Duhring [1] has expressed the opinion that two varieties of disease have been described under the title of urticaria pigmentosa,—cases of true urticaria, and cases partaking more of the nature of xanthoma, with intense itching and pigmentation, and the formation of distinct papules and tubercles, in short, a "macular" and a "nodular" variety.

Two instances only of urticaria pigmentosa have come under my notice, the following is the more typical.

16. J. D., aged four, came from some distance in the country. The boy looked rosy and healthy, had fine curly hair, and was well grown. His father stated that he had scabies before he was married, and was still suffering from it when he did marry, and for some time after. Soon after its birth the infant began to have outbreaks of urticaria, and these still recur about once a fortnight. The wheals, which are small, develop principally on the limbs, and when they fade, leave behind darkly pigmented and slightly raised maculæ, which are of the size of the finger nail or less. These are scattered over the buttocks, hips, and legs, and are of a dusky brown colour. On one knuckle was a vesicle, but no acarus could be found near it. The boy is nervous and timid. He scratches much at night, yet there are few excoriations. He was directed to have a warm bath, and the subsequent inunction of a storax ointment at night, and chemical food. When seen a year afterwards, it was stated that the ointment had removed the irritation for the time, but the disease always recurred. It had, however, somewhat changed its character, and though there were still dark blains visible, some at least of these seemed due to ecthymatous pustules, of which he had had some now and again. He was not again heard of.

[1] *Transactions of the American Dermatological Association*, 1884.

More closely allied to urticaria than to any other skin disease are those cutaneous swellings which have been grouped under the term "*Acute circumscribed cutaneous œdema.*"[1] They are characterised by œdematous tumefaction of the skin and subcutaneous cellular tissue in circumscribed spots, which measure from half an inch to several inches across. These in my experience are met with more particularly on the face, especially about the lips and eyelids, but occur also on the extremities, and there in the neighbourhood of the joints, sometimes on the trunk. While the swollen portions may be reddish at times, they are quite as often of the natural hue of the skin, or pale and transparent. A feeling of tension in the places affected is usually complained of; there is seldom any itching. The disease does not appear to be limited to the skin, as similar swellings may apparently form on the velum palati, the pharynx, and entrance of larynx.

In a case recorded by Krüger in a man aged twenty-five, whose mother and sister were similarly affected, the attacks grew very frequent, and the heart's action was sensibly enfeebled. He died suddenly one night. The only cause revealed by post-mortem examination which might have led to the fatal issue, was œdema of the glottis.[2]

The swellings develop suddenly, though they may not reach their full extent for from several hours to a day, the œdema travelling onwards from its point of commencement till, in the case of the eyelids, the whole of both upper and under, and even some of the skin beneath, becomes distended with serum. After persisting for from several hours to three days resolution takes place. The disease may thus finally disappear or be protracted by the eruption of successive tumefactions, or it may continue to recur at varying intervals, as a week or a fortnight, with almost typical regularity, throughout a series of years.

A chill or physical exertion seems in some cases the starting-

[1] Quincke, *Monatshefte für praktische Dermatologie*, 1882.
[2] *Lancet*, 8th February 1890, p. 311.

point. In one of Quincke's cases there appeared symptoms affecting the organs of digestion, as loss of appetite, vomiting, thirst, severe abdominal pain and constipation, succeeded by diarrhœa when the attack had subsided. In three instances related by Strübing,[1] the cutaneous œdema and the gastro-intestinal symptoms were both present. He associates these with the œdemas met with in hydræmic states; the changes in the vascular walls which permit the production of the œdema can in acute forms only be brought about by the action of the nervous system, and he inclines to the belief that there is an increased irritability of the vaso-dilators. In one case a lady aged twenty-six, liable to urticaria in early life, only after the birth of her first child, nine months before, began to have attacks of œdema, at intervals of a month or six weeks.

Though the swellings are usually soft, sometimes, as Milton has described under the name of giant urticaria, the swellings were hard on palpation, and in these, besides the serous exudation constituting œdema of the skin, there might have been plastic material exuded also.

The subject has more recently been touched by Rapin.[2] He also notes that itchiness, which is in general regarded as inseparable from every urticarial eruption, is in circumscribed cutaneous œdema sometimes absent. And, again, the œdema of neuropathic origin, which constitutes urticaria, scarcely pits, and retains but imperfectly the impression of the finger. This feature, again, is not invariable in giant urticaria. Hence, if this is to be included among the varieties of nettlerash, itchiness and pitting, the result of pressure, have no absolute value in the diagnosis of urticaria.

"Urticaria of the scalp shows itself under the guise of hard nodules, which resemble the rheumatic nodosities, with which indeed they may be confounded. The production or non-production of pain on pressure, the longer or shorter duration of the

[1] *Zeitschrift für klinische Medicin*, October 1885.
[2] *Revue Medicale de la Suisse Romande*, No. 12, 1886.

phenomena, permit, in the absence of other signs, the differentiation of these two affections."

Unna[1] accounts for the production of the nodules in giant urticaria by supposing that the spasm of the venous walls, damming back the lymph, by denying it absorption, occurs deeper in the trunk of a larger vein.

As exciting causes, sudden chilling of the surface, catching cold, and excessive bodily exertion, have been mentioned. It is also met with in association with chronic rheumatoid arthritis.[2] The following are examples:

17. A lady, aged sixty-nine, who had long suffered from subacute rheumatism, in a form allied to rheumatoid arthritis, affecting in particular the joints of the fingers and the knees, was in fair health till about 3 P.M. one day in November. She then suddenly experienced a stabbing pain in the left supra-orbital region, and this part immediately swelled up. When seen at 7.30 P.M., the skin and subcutaneous tissue over the left supra-ciliary ridge was swollen like an egg, the eyelids were œdematous, and the left side of the conjunctiva was congested. The tumefaction was coloured like the skin round, felt hard, but was painless, a feeling of tension being alone complained of. The pulse was 80 (very little accelerated above the normal rate); temperature 99·4°. The skin was moist, the bowels had been freely opened the previous day: the voice was husky and weak, as if there was also some degree of laryngeal œdema. She had been taking for a few days a mixture containing a little iodide of potassium. Next day the swelling was nearly gone, but the loose tissue round the eye was stained a purplish hue. In three days more no trace remained, and the voice, too, had nearly resumed its clear note. The disease has recurred twice at long intervals. Once the throat and fauces became inflamed and red with some degree of fever, coincidently with the development of the tumefactions round the eyes.

[1] *Monatshefte für praktische Dermatologie*, Erganzungsheft I. 1887.

[2] See a paper by the author on this subject in the *Transactions of the Edinburgh Medico-Chirurgical Society*, 1882-3.

18. W. D. M., twelve; a stout well-grown boy, with a presystolic cardiac murmur. Never known to have had rheumatism. Three years before I first saw him he had been struck on the cheek by a boy. The skin became red and swollen, and this has since repeatedly recurred. He had at the time he presented himself a tumefaction projecting nearly half an inch above the sound skin on the forehead. It was pale pink, and somewhat mottled. The margins faded gradually, not being sharply defined at one or other part, as in erysipelas. His mother told me that a red spot first comes out, accompanied by a sensation of burning, and this spot spreads and becomes more prominent. The nodosities may last a week or more, and recur at irregular intervals. Sometimes the skin round the eye or eyes is involved. At times the nose becomes stuffed, and subsides with the discharge of a bloody or muco-purulent fluid. No symptoms affecting the throat or digestive functions, such as vomiting or diarrhœa, have been observed. He was seen once more four months later; till then he had remained well. He had then two tumefactions on the face.

The diagnosis of the simple form of urticaria should not be difficult, though it is sometimes mistaken in practice. The rapidity with which the wheals develop, and their evanescent character, the peculiar sensations of tingling and itching which accompany them, are features seen in no other skin disease. When urticaria occurs as a complication of other diseases, there may be more difficulty, but then the urticaria sinks into a secondary place. On the face it is at times mistaken for erysipelas, elsewhere for erythema multiforme. Urticaria must frequently be diagnosed by the absence of any lesion at the time of examination, the history being all we can rely upon. The more chronic and the complex varieties are to be recognised by a careful examination and by the exclusion of other disorders which simulate them. In particular must circumscribed cutaneous œdema be distinguished from a persistent form to which attention has been directed both by Behrend[1] and by Hutchin-

[1] *Sitzung. der Berliner Med. Gesellschaft*, 16 März 1887.

son.[1] This latter affects *par excellence* the loose tissue under the eyes, though seen more rarely elsewhere, and follows frequently recurring erysipelas of the regions involved.

The true causation of urticaria has not been very satisfactorily made out. We know that in certain persons nettlerash will develop under circumstances which, in the majority of individuals, produce no such result; but why this occurs we are unable to explain. Given this peculiar susceptibility in the person, which, if we accept the ingenious theory of Unna, already fully set forth under the description of the wheal as one of the primary lesions—(see p. 60)—consists in a disposition to venous spasm, there are a number of exciting causes which may lead to its manifesting itself. As Unna says in the treatise referred to, not all who are stung by the nettle develop wheals; in some a simple hyperæmia results. The permanent tendency, which must exist before the nettlerash appears, can arise from a central or peripheral source: "In other words, there exists, either in the vaso-motor centres or in the peripheral vascular ganglia, a lasting source of this predisposition." To this tendency must be added, to induce urticaria, some irritation, which for the time brings it into play.

(1) *Local Irritants.*—The puncture of the needle in electrolysis causes a wheal, but the more common causes are found in the bites of numerous insects. The urticarial wheal, however, not only appears where the insect has made its punctures, but the scratching makes others arise elsewhere, even in parts distantly removed, apparently by reflex action. This irritability of the skin tends to increase, so that flannel or pressure may reinduce the wheals. When the statement is made that itching in such cases is only *constantly* present at night, the presumption is that some of those insects which prey on man may be the cause.

(2) *The ingestion of many articles of food and of some medicinal substances* cause in certain persons urticaria. It has been

[1] *The Illustrated Medical News*, 20th October 1888.

said that this is due to indigestion, but in the first place the occurrence of the urticaria follows so speedily after the offending substance has been introduced into the stomach, that there was no time for digestion to have even commenced. And again the sole evidence of the assumed indigestion is the urticaria. There is in such instances generally, if not always, no pain, weight, or gastric uneasiness, none indeed of the ordinary symptoms of dyspepsia. Occasionally in acute urticaria there is vomiting, and an emetic timeously administered may cut short the urticaria. But this does so merely by removing the cause of the reflex action. Gout and rheumatism are often blamed as causes, and when there is a defective removal of excrementitious materials urticaria may supervene.

In a case related by Professor Douglas Maclagan,[1] where there was severe urticaria, which recurred almost daily and after each meal, the urine was found to be of low specific gravity, and to contain less than half its usual amount of urea and uric acid, though not deficient in quantity. After colchicum had been administered for a fortnight, the urea had more than tripled ; then was in excess, the density rose, and the urticaria diminished in frequency and severity, and finally disappeared.

(3) In some cases urticaria may resemble migraine, as one of the modes in which a nerve-storm culminates and expends itself. In a female aged sixty, seen with Dr. Darling, the attacks had lasted for ten years, the interval steadily decreasing from two years at the outset to six weeks latterly. There was some evidence, in this instance, of hepatic inactivity. An overtaxed condition of the nervous system—a fertile source of neuralgia—can occasionally be discovered, and Liveing describes[2] a recurrent urticaria, rhythmical in periodicity, and sometimes replacing the neuralgic seizure.

(4) Disorders of the female sexual organs may occasion it, as in a case related by F. Frank where urticaria persisting for three

[1] *Monthly Journal of Medical Science*, August 1848.
[2] *Handbook of Skin Diseases*, Fifth Edition, 1887, p. 94.

years was diagnosed to depend on chronic oophoritis and salpingitis. It was permanently and at once cured by oophorectomy.[1]

Why in some persons, and particularly in certain countries, urticaria should develop into the form of disease known in its completed state as prurigo, has never been explained. In Austria, evidence of its existence is admitted as a valid excuse for exemption from military service. It is not mere condition in life and environment, since, though rare in the higher ranks of society, such a sequence is not unknown.

In urticaria pigmentosa the tendency to the evolution of wheals is limited to certain defined areas, on which the wheals are being constantly repeated. "The disposition," to quote Unna, "is besides so strongly expressed, that slight central irritants (as mental states), or peripheral (as pressure), are sufficient to evoke the wheals." The recurring hyperæmia in time causes pigmentation, while the granular cells increase in numbers with each recurrence.

The association of circumscribed cutaneous œdema with rheumatoid arthritis has been already mentioned. In all cases of urticaria there is a recurring instability of equilibrium in the nervous system, and habit probably renders resistance weaker along certain paths, so that the wheals or the tumefactions are liable to be reproduced in the same localities, or in other localities, the areas of central nerve supply for which are in regional relation.[2]

Malaria has been quoted as a cause of urticaria, where the return of the attacks exhibited a rhythmical periodicity resembling a quotidian or tertian ague, and urticaria may be a symptom of hydatids, due, as M. Debove has shown, to absorption of the contents of the cysts.

M. Jaquet has demonstrated that if the affected part, in a case of chronic urticaria, be carefully enveloped in cotton wool, the

[1] *Zeitschrift für Heilkunde*, 1890, p. 107.

[2] Dr. Berry Hart, quoted in Hilton's *Rest and Pain*, Third Edition, p. 211

tingling ceases and the wheals are no longer produced. He therefore concludes that the lesion of urticaria is always a factitious one consecutive to local irritation.

Since the cause which leads to urticaria is so often indefinite, our treatment must be too often more or less empirical. In acute urticaria, an emetic, by rapidly unloading the stomach, may be expected to do good, and for this purpose mustard or sulphate of zinc are the most suitable, or apomorphia may be injected subcutaneously. Warm baths are contra-indicated, the regimen should be cool, and the dietary simple and light. When the force of the attack has been broken, or when the time for the exhibition of an emetic has passed, moderate doses of neutral citrate of potass, or the bicarbonate in effervescence with lime juice or citric acid, administered well diluted and between meals, will usually be found to relieve. For the skin itself, a dusting powder of talc or cimolite, to which a little camphor has been added, and used pretty liberally, will be found soothing.

In the management of chronic urticaria we have to overcome the bad habit into which the skin has fallen, to lessen its heightened irritability, and to correct anything faulty in the system itself. I have found nothing so effectual in moderating the sensitiveness of the skin as nightly warm baths containing two ounces of potassa sulphurata in thirty gallons of water. The bath should last ten minutes to a quarter of an hour, the surface should then be dried rapidly with a warm, soft towel sheet, and finally smeared over very thinly with two per cent salicylic vaseline. Another useful bath is one containing in thirty gallons a wash-hand basin full of freshly-made starch, to which Brocq adds a pint of vinegar. A cotton or linen night-dress should be worn, and linen sheets are preferable to sleep in, as smoother and cooler. Sometimes instead of the vaseline the secondary cooling effect of the warm bath may be prolonged by painting the surface with a spirit lotion containing a little carbolic acid and glycerine.

℞ Acid carbolic . . . ʒi.
Glycerini puri . . . ʒii.
Sp. vini rect. . . . ℥iii.
Aq. camphoræ . . . ℥v.
—— M.

Or an ointment consisting of carbolic and salicylic acids, each ten grains; tartaric acid fifteen grains, and glycerine of starch an ounce.

Menthol, which occasions a sense of coldness, from causing, when applied locally, an acute contraction of the vessels, may sometimes be substituted for carbolic acid with advantage. In some cases the menthol soap mentioned more fully under pruritus, may be used to wash with.

Internally I have now and then seen benefit from a mixture like the following:—

℞ Magnesiæ carbonat., Bismuthi carbonat., each ʒiiss.
Tinct. rhei . . . . . ℥ii.
Syrup. Zingib. . . . . ℥i.
Aq. . . . . ℥viii.
—— M.

One tablespoonful in a wineglass-full of water after meals.

Salicin and the pure salicylate of soda, which we owe to Professor Charteris, have proved very advantageous in my hands.

Another remedy of much value is atropia, as recommended by Schwimmer.[1] It should be administered as a pill of the $\frac{1}{120}$ to the $\frac{1}{100}$ of a grain of the sulphate made up with sugar of milk and glycerine of tragacanth. The pill is given at night, and the dose needs at times to be increased considerably above that named, till some symptoms of belladonna intoxication are induced. Brocq prefers to add ergotin and quinine to the pill.

19. *Chronic urticaria.*—Miss E., thirty-five, to all appearance healthy, yet has suffered much for ten years from nettlerash.

[1] Ziemssen's *Handbook of Skin Diseases.*

While strawberries in summer and warm baths seem to be followed by more severe and sudden outbreaks, there can be traced no distinct causal relationship with diet or habits. Wheals and vibices appear very capriciously on any part of the body. The duration of these is now longer than it used to be, as they sometimes last more than twenty-four hours. She has taken arsenic for six months at a time without benefit. She was directed to wash with Beiersdorf's over-fatty ichthyol soap, and to take $\frac{1}{100}$ grain of sulphate of atropia at night. Two months after she was reported as well, and has continued so.

Where there is any suspicion of deficient excretion of urea, as in the gouty, colchicum in small doses, with lithia or potash, may be useful.

The sulpho-ichthyolate of ammonia, which has some influence in lessening hyperæmia of vaso-motor origin, when administered internally, has done good in one or two cases. In one, in particular, it made the outbreaks much less frequent when atropia had failed. It should be given in doses of three to ten drops, freely diluted, twice or three times a day.

An exclusively milk diet partaken of for a time may help to break the urticarial habit, all evening stimulants, as toddy or much smoking, must be given up, and a little claret, or very dilute whisky and water, taken, if stimulants are on other grounds deemed advisable, only with dinner. Any flushing of the face after alcohol should be accepted as a hint for its discontinuance.

Lichen urticatus in children needs for its successful treatment an improved dietary. As medicines, the syrup of the iodide of iron, or small doses of Easton's syrup, or the mixture of carbonate of magnesia, etc., mentioned on the preceding page, in suitable doses, usually do good. Cod-liver oil is also useful. Tea must be excluded from, and porridge included in, the articles of food.

Locally Unna's naphthol soap is sometimes sufficient to cure or this may be supplemented with an ointment of—

B. naphthol	ʒi.
Lanolini	ʒii.
Ung. simplicis	℥i.

—— M.

If a lotion be preferred, that known as "Hutchinson's" (see under Eczema) will be found very useful.

20. Two children, one aged four and a half, the other two years, were brought to me for advice concerning an eruption which had existed in the elder for a year, in the younger for six months. It affected the face, head, trunk, and hands. Their mother slept with one or other, but was not affected, nor was their father.

The rash was discrete, chiefly red papules, but some few of the lesions were minute vesicles. The itching was very severe, and wheals sometimes came out. Baths of sulphuret of potass were ordered to be given at night, followed by inunction with a naphthol and lanoline salve. In ten days, when seen again, the lesions had nearly disappeared. Both children now slept well, and the mother said she now enjoyed a degree of comfort she had not had for a year. They were directed to be washed with naphthol soap and to have cod-liver oil.

This method of treatment suits also prurigo in children, though, when this has got a hold, pilocarpine is recommended by O. Simon and Pick as the best remedy. Injected subcutaneously, in doses varying from $\frac{1}{10}$ to $\frac{1}{3}$ of a grain, once or twice a day in the case of adults, it procures a degree of improvement not attainable by any other means. Whether by its means a permanent cure can, in the prurigo seen in this country, be effected, the time during which it has been used is too short to permit of an opinion. In a young lady of eighteen, in whom this had existed since infancy, pilocarpine, and, locally, compound salicylic glycerine jelly (see eczema), in three months effected a cure, for no relapse has occurred after a lapse of two years.

Cod-liver oil in full doses is certainly of use in all cases of so-called prurigo. In particular is it useful in winter prurigo, where the cold renders the skin specially sensitive to cutaneous irritants.

For circumscribed cutaneous œdema and urticaria pigmentosa we possess no certain remedies. Matas of New Orleans records a case of the former, with daily recurrences, but which was cured by large doses of quinine; and another is given by Elliot, where constipation and gastric disturbance existed, and in which the attacks became less frequent when cascara and nux vomica were taken regularly.[1] Salicylate of soda seems to have benefited an instance of urticaria pigmentosa cited by Unna.

Urticaria in its ordinary form is well portrayed in Plate IV. of *Tilbury Fox's Atlas*; urticaria persistans in Plate L. of *Wilson's Portraits*; while urticaria pigmentosa, under the designation of xanthelasmoidea, is admirably delineated in Plate LXIII. of *Tilbury Fox's Atlas*. In Plate IX. of the same Atlas will be found a typical illustration of lichen urticatus. Tafel XXXII. of *Neumann's Atlas* shows rather a mild form of prurigo as the term is understood in Austria.

1 *Journal of Cutaneous and Genito-Urinary Diseases*, No. 1, 1888.

CHAPTER X.

HERPES.

THE term herpes is now used to denote a class of dermatoses, the main peculiarity of which is that there are found in all, groups of vesicles seated on an inflamed base, and connected more or less distinctly with neurotic disturbance.

Hippocrates applies the word ἕρπης to shingles because it creeps round the body. He speaks also of ἕρπης ἐσθιόμενος or an eating sore, as a variety of herpes: this must mean lupus, or a serpiginous syphilide, since the ulcers which sometimes succeed the vesicles in herpes zoster scarcely merit so destructive an epithet.

The tendency to creep is really less applicable as a distinctive appellation to herpes than to many other skin diseases. Indeed, the disposition to spread by continuity of tissue is a character by no means prominently marked in herpes; the parasitic affections, lupus, eczema, and erythema, exhibit it much more remarkably. French authors speak much of herpetism, which does not mean a tendency to develop herpes, but this peculiarity, constantly seen in cutaneous diseases, of invading in succession new and adjoining areas. The word certainly expresses a common feature, but one by no means limited in its action to the skin: it explains nothing, however, and should be discarded like dartrous, another term indicating a proclivity to skin diseases.

The diseases included under the generic name of herpes have

undergone some diminution. Thus herpes iris is now admitted to be merely a vesicular form of erythema multiforme, and so with herpes circinatus, when the vesicles are not an unusual result of the presence of the *Trichophyton tonsurans*. *Herpes gestationis* is a phase of dermatitis herpetiformis. There thus remain but two or at the most three varieties, herpes zoster, and herpes febrilis, and præputialis, the two latter differing little save in localisation.

Herpes zoster, zona, or shingles—the latter a corruption of *cingulum*, a girdle—has been looked upon by the laity, and to some degree by the profession also, as mysterious in its nature. The painful sensations which frequently precede the eruption, the popular idea—by no means entirely abandoned—that should this spread all round the trunk a fatal issue would follow, and the neuralgia which may persist for long after the vesicles have run their course, have tended to foster this fallacy. Dr. Byrom Bramwell thinks that there may possibly be some foundation for the current opinion alluded to above, inasmuch as in some obscure spinal complaints (he cites an instance) there is a bilateral herpetic eruption, and the termination may be fatal, not, however, in consequence of the herpes.[1] A better acquaintance with its pathology has done something to explain these phenomena, and we now know that the visible external symptoms are the least important parts of the disease.

The first symptom observed in zoster is pain, or at least uneasy sensations, somewhere in the course of a sensitive nerve, and roughly circumscribed to areas corresponding to the points where the branches of the nerve become superficial. The earlier in life the less pain, but tingling and numbness may take its place, or there may be no complaint made of any subjective sensations whatever, the eruption being the first thing to attract attention. In adults and in advanced life pain is seldom absent, though it varies in character and intensity. The term burning is often used to express its nature, or it may be a dull gnawing,

[1] *Studies in Clinical Medicine*, 31st May 1889.

or sharp stabbing, experienced in or beneath the skin. After continuing two or three days, in rare cases considerably longer, red pin's-head-sized papules appear in groups, each with an erythematous halo round it, and these somewhat rapidly become vesicles seated on an inflammatory base. The groups of vesicles are not all developed at once, but may appear in succession, the first to show themselves being, as a rule, those nearest the central nervous system, but the vesicles in each group are coeval. The groups in some cases may become confluent, forming a continuous band. The contents, clear primarily, assume a milky and finally a purulent aspect, or in some severe cases hæmorrhage takes place, so that from a clear red they change into a dark black. This hæmorrhagic form is particularly liable to leave scars. When the eruption occurs in the course of spinal nerves it may involve portions of skin supplied by several, but it is very rare indeed for nerves on both sides of the body to be simultaneously or consecutively affected, and still more rare for corresponding nerves on both sides. At times the eruption aborts at the papular stage, and the lesions never become vesicular. With the appearance of the eruption the pain lessens or ceases. The vesicles have little tendency to rupture spontaneously, but commonly dry up, and the flaky remnant exfoliates in from ten days to a fortnight. Occasionally, however, they do break, and expose shallow ulcers, which on healing leave permanent cicatrices. At times the resulting ulcer is extremely painful, probably because the terminal ends of the inflamed nerves are exposed. The neuralgia may now reassert itself, and may continue with intermissions for weeks and months. It generally disappears in course of time, but in rare instances it not only persists, but may actually wear out the patient by its severity.

Zoster may occur on any part of the skin supplied by a sensitive nerve which has a ganglion in connection with it. Besides the trunk and limbs, the region dominated by the fifth nerve is a common situation, and the disease may in this part

lead to serious consequences to the eye, in addition to unsightly scars, and a persistent numbness of the forehead or cheek. It would appear that the extent to which the eye is implicated depends on whether the internal as well as the external branch of the nasal nerve is involved. Should the internal be spared then there is not panophthalmitis,—the cornea is not affected,—but there is conjunctivitis.[1] The commonest situation for zoster is the one from which it derives its name, the thoracic form. In this the pain is sometimes deep-seated, and may simulate that of pleurodynia or pleurisy. The eruption extends, forming one or several separate and defined groups, extending obliquely from behind forwards. There may be but one group, and that most commonly seated in the mesial axillary line. The vesicles near the sternum or middle of the abdomen are not always exactly limited to the affected side; a few may be found a little way on the other side of the central line in front. On the limbs the groups are arranged longitudinally, and though sometimes reaching as far as the hand on the upper extremity, they have seldom been seen on the foot or even on the leg. One of the rarest places for zoster is the region supplied by the small sciatic.

While as a rule zoster attacks the same individual once only in his lifetime, this is by no means absolute; and a sufficient number of cases in which there has been recurrence have been observed to render it certain that it may, but seldom does, reappear. Kaposi has recorded one instance where it relapsed nine times. On Plate XXIII. of the *Sydenham Society's Atlas* the eruption of zoster is depicted with the scars left by a former well-authenticated attack.

It is only in severe cases that there are any well-marked constitutional or febrile symptoms. Nausea and vomiting have been noticed at the onset of frontal zoster, and considerable gastric and hepatic disturbance, as shown by a thickly coated, yellow tongue. This may be explained, like the corresponding occur-

[1] *Annales de Derm. et de Syph.*, April 1889, p. 335.

rence in migraine, by the communications which exist between the vagus and the fifth nerves, and the implication of the gastric branches of the former.

Allowing for the absence or mildness of the subjective sensations in children, which might lead to cases being overlooked, my experience accords with that of Mettenheimer, that it is much rarer in them than in adults, and is excessively rare in very young children.[1]

Pathologically the disease is a neuritis, which probably, however, is a descending one, the starting-point being either the ganglion on the posterior root, or still deeper in the central spinal cells, in association with the posterior or sensory root of the affected nerve. Two cases examined by Dubler[2] bear closely on this point. They were those of two women, aged seventy-seven and seventy-one, who had suffered from thoracic zoster, accompanied and followed by severe neuralgic pains. The zoster appeared in the one a year and a half, in the other three months, previous to death. In the first the essential anatomical alterations, as far as the zoster was concerned, consisted in an advancing neuritis of the intercostal nerves, caused by a caseous periostitis of the ribs. The neuritis extended even to the finest twigs in the skin and muscles, while the spinal ganglia were, on the contrary, unaffected. The second presented an example of spontaneous idiopathic zoster, occasioned by a neuritis of two intercostal nerves. Only one of two associated ganglia showed any pathological change, but here also the neuritis extended to the finest peripheral ramifications. It would appear that in zoster, though the disease in the nerve may start from the spinal ganglion in the first instance, yet the inflammation of the nerve must include the nerves themselves and their cutaneous branches. In a case observed by Danielsson there was only neuritis of the intercostal nerves, with cell infiltration of the neurilemma. Kaposi believes that zoster may be of

[1] *Jahrb. für Kinderheilkunde*, Bd. xxviii., Heft 1, 1888.
[2] Virchow's *Archiv*, May 1884.

cerebral, spinal, ganglionic, or peripheral nerve origin, since the eruption may be bilateral, unilateral, or consisting of but one or two groups of vesicles, which latter could only correspond to the peripheral distribution of a nerve trunk.

Féré has directed attention to a diffuse rachialgia, which he has met with in two instances of thoracic zoster, in which there was both spontaneous pain along the spinal column, and pain increased on pressure. The pain continued till the vesicles had disappeared, gradually lessening in degree, but even after the scars had healed it could be elicited by squeezing the part.[1]

The motor nerve filaments participate also in the neuritis, and this explains why paralysis may occur in the course of zoster. Strübing[2] has collected a number of such cases. The eruption of vesicles in most instances precedes the paralysis. Where the lesion is central, disease may consecutively involve the motor as well as the sensory tracts. In zoster of the fifth nerve, accompanied by facial palsy, the concurrence may be accidental, or due to the same exciting cause—a draught of cold air, for example; or the inflammation may extend by intercommunicating filaments from the branches of one nerve to the other.

Another remarkable fact brought out by Dubler is that the neuritic process must be of a special intensity, as shown by the considerable alterations in the nervous system discoverable so long after the occurrence of the zoster. Evidence to the same effect is deducible from the clinical features, and from the long persistence of the neuralgic pains. That not only is there a descending neuritis in zoster, but that also there may be an extension of the disease from the primary foci in the spinal cord to related areas, leading to nervous phenomena on the other side, has been shown by a remarkable case recorded by Pearson.[3] In November 1882 a gentleman verging on sixty was exposed for some time to a draught of cold air which played on the back of

[1] *Revue de Med.*, 1890.
[2] *Deutsches Archiv für klin. Med.*, October 1885.
[3] *British Medical Journal*, 8th August 1885.

his head and neck. Symptoms resembling those of stiff neck on the right side first manifested themselves, and on the seventh day after exposure an abundant herpetic eruption appeared over the right nape of the neck, shoulder, and upper arm, precisely the region supplied by the circumflex nerve. The case ran a natural course, but was severe as regards pain, and the disability entailed on the patient in resuming his work as an artist. Throughout the following spring the stinging pains and distress produced by the use of the arm continued, but nearly disappeared during the hot autumn of 1883. In December, however, the pains transferred themselves to the corresponding area on the left side. The pain was even more severe and disabling on the newly affected side. Sometimes it attacked in full force both synchronously, and sometimes the right, the original seat of pain, was still the worst; so that he thought he was about to have a second attack of shingles on the other side. In the autumn of 1884, instead of comparative immunity from pain, he was suddenly seized with giddiness, and could not walk. The sensation seemed to spring from the back of the neck. There was also hyperæsthesia of the auditory nerve and humming noises. His health became more vigorous in the spring of 1885, and the vertiginous sensations gradually subsided. The phenomena connected with the auditory nerve first disappeared, then the giddiness.

Robinson[1] states that "deep in the subcutaneous tissue—deeper than the inflammation producing the vesicles reaches—a round-cell infiltration is observed within and around the neurilemma—that is, there is a perineuritis. This cell infiltration can be seen to follow the course of the nerve branches, the neighbouring tissue being normal." His views are thus confirmatory of those of Dubler, and support that of Kaposi as to the occasional peripheral origin of zoster.

Why zoster is painless, or at least much less painful, in children than when it occurs in adults, is a problem not fully

[1] *Manual of Dermatology*, 1885, p. 231.

solved. I think it may be because the tissues which enclose the nerve filaments or the ganglia are more elastic in the former, and thus pain due to tension is not so acute. This may perhaps explain some cases. The locality of the nerve lesion may account for others.

Again, cicatrices are almost exceptional in thoracic zoster, while they are almost the rule in zona of the forehead. This difference is probably due, according to Leudet, to anatomical peculiarities. Tension is greater in the one region than the other, the skin being firmly stretched over the frontal bone, while it is much more movable over the ribs.

Is there a chronic zona? Leudet,[1] from the observation of eighty-five cases, is of opinion that there is, but his opinion seems based on the fact that in certain persons, especially the tuberculous or the old, the ulcers which succeed the vesicles are long in healing, and are mostly seated on the same side of the body as that on which the lung is diseased. Hardaway, however, records a case in an old gentleman, who suffered from constantly recurring vesicles, which made their appearance on both sides of the neck. The lesions were arranged just as in herpes zoster, and the subjective symptoms were similar.[2] A nearly parallel case occurred in my practice, where a lady, aged twenty-six, suffered from an eruption of vesicles in groups running transversely across the right cheek, each attack being preceded by pain; this repeated itself many times at intervals.

The causes which induce zoster have been by no means fully worked out. In any descending neuritis which implicates the terminations of the nerves in the skin, and thus affects the rete Malpighii, we may find the starting-point of a zoster. We may thus have—

(1) *Traumatic causes.*—Blows have been known to cause zoster, and so with other injuries.

[1] *Archives générales de Médicine*, January 1887.
[2] *St. Louis Courier of Medicine*, May 1888.

(2) *Progressive advance* of the inflammation from diseased bones or soft parts which have become unhealthy.

(3) *Toxic causes.*—Zoster has been known to arise from poisoning by carbonic oxide. Mr. Hutchinson especially has drawn attention to its occurrence during the administration of arsenic. The cases are perhaps too numerous for this to be a mere coincidence. When we consider for how long a time arsenic is sometimes given, and in what relatively large doses in cases of chorea, psoriasis, and lichen ruber or planus, one would expect that zoster would follow more frequently than it does. But Mr. Hutchinson states that if zoster occurs from this cause, it always happens, he thinks, during a first course. Two points may be noted in connection with this: one that M'Call Anderson believes that patients are more susceptible to cold during a course of arsenic, which might thus develop any latent susceptibility to zoster; the other, that arsenic is a stimulant to the rete mucosum, shown by the aggravation of advancing psoriasis, or acute eczema, by its administration.

(4) *Infectious miasmatic origin.*—Only certain facts can be adduced to illustrate this. Proust[1] and Ballet have several times seen zoster in the region of the left ulnar nerve in persons affected with beriberi, a disease which they think must be regarded of an infectious nature. It is common experience also that cases of zoster seldom occur singly. Several or a number are seen about the same time, and then no more for an indefinite period. A few cases have been recorded in which there was a suspicion of infection, the disease having appeared in two or more members of a family in succession. In one of these a grandmother became ill three weeks after nursing her grandchild.[2] A still more remarkable instance has been recorded by Walther.[3] A student affected with zoster removed from his room. The next occupant shortly after was attacked with the

[1] *Archives de physiologie*, 1883.
[2] *New York Medical Record*, 1885.
[3] *Allgem. Med. Central-Zeitung*, 24th April 1878.

same affection. This one also removed, and the third occupant, also a student, was immediately afterwards attacked by the same disease.

21. In November 1886, when shingles were prevalent all over the United Kingdom, a lady over forty was laid up with a mild attack of intercostal herpes affecting the left side of the chest. Her sister visited her in her bedroom several times, and in the second week of December was also attacked with herpes zoster affecting the left side. The sixth intercostal nerve was the one along the course of which the groups of vesicles were distributed. The pain was much more severe than in her sister's case. One evening, late, I was sent for, as she was suffering from faintness, and I found the pulse, which was usually of fair strength, extremely feeble, while she felt cold and depressed. A capsule of nitrite of amyl was given her to inhale, and the volume of the pulse was restored, and a feeling of well-being imparted.

In both those cases ten minims each of tincture of nux vomica and tincture of gelsemin were administered thrice a day, and the pain subsided almost coincidently with the disappearance of the eruption and did not recur. The first case occurred in a lady who suffered much from neuralgia, and in whom the menopause was impending; in the other, the lady was in particularly good health when she visited her ailing sister.

(5) Dreyfous has ascribed an important influence to a neuropathic predisposition, but Féré shows that zoster is rare in epileptics. The diffuse rachialgia which has been mentioned as occurring in zona, would seem to point to a disseminate irritative lesion of the spinal cord. This appearing epidemically suggests the idea of an attenuated form of cerebro-spinal meningitis, of which the zoster may be a "revealing symptom." This explanation might also apply to herpes supervening in the course of infective diseases, in which meningeal complications are not uncommon.[1] Dr. Byrom Bramwell holds that zona may be the

[1] *Revue de Med.*, 1889.

result of a common (atmospheric, endemic, or local) cause, and that it may be shown to be due to a particulate, living, organic (germ) poison.[1]

(6) When these causes have been excluded, a large number of cases remain which cannot at present be accounted for. Rheumatism has been blamed for this as for many other diseases, but the connection is not clear. Hereditary influence prevails occasionally, as in one instance cited by Dubler, where the grandfather and uncle of the patient had both had zoster, and in another brought before the Medico-Chirurgical Society of Edinburgh[2] by Dr. Gibson, where two generations had suffered, a father and daughter.

Another theory propounded by Pfeiffer demands a brief notice. He thinks that the pathological alterations in nerve structures met with in zoster are secondary, and that the distribution of the groups of vesicles may be as well explained by connecting them with the vascular as with the nervous supply of the skin.[3]

When the localisation of the clusters of vesicles in zoster which corresponds to the course of a nerve trunk is borne in mind, there should be little difficulty in diagnosis, provided the lesions are fully developed. But before the eruption has appeared the case may be misunderstood. The premonitory pains may simulate those of pleurodynia when the thoracic region is involved, or some deep abdominal mischief may be suspected. When the eruption is abortive, and does not go beyond the papular stage, there may be some confusion, and when only one group of vesicles appears, the nervous connection may be forgotten, especially if pain be not a prominent symptom. In the case of a gentleman aged seventy, who had a severe attack of hæmorrhagic zoster affecting the thorax, there was no pain at any time, though the disease left deep scars. The patient's

[1] *Studies in Clin. Med.* 28th June 1889.
[2] *Birmingham Medical Review*, October 1885.
[3] *Monatshefte für prakt. Derm.*, 15th November 1889.

attention was first attracted by the escape of fluid from the larger vesicles, which had ruptured from the pressure and friction of his clothes.

Zoster runs an acute course, terminating, as far as the lesions are concerned, usually within a fortnight, unless ulcers form. The best local treatment consists in painting the vesicles with flexible collodion, which lessens the chance of their being artificially ruptured. The painting may be renewed each day, at least over any part where the varnish has cracked. To be advantageous this must be commenced early. Brocq is of opinion that if employed later than the fourth or fifth day, it causes the vesicles to penetrate more deeply, and thus increases the tendency to ulceration and scarring. Occasionally cases occur where the blisters are so large or so closely aggregated, that they almost raise the whole epidermis *en masse*. In such, each bleb may be carefully punctured with a needle sterilised in the flame of a spirit-lamp, the whole surface then freely dusted with the salicylic talc powder and enveloped in a moderately thick layer of salicylic wool. When the vesicles have dried up, dressing with the zinc ichthyol salve muslin is most pleasant to the patient, favours rapid healing, and very much lessens the amount of ultimate scarring, if it does not prevent it entirely. This is *the* treatment in frontal zoster. If the nature of the disease is recognised during the stage of premonitory pain, a blister over the spine on the painful side will sometimes succeed in partially or completely aborting the cutaneous manifestations. In one such case a blister over the nape of the neck on the left side was followed by a slight papular eruption in the course of the circumflex nerve, not preceded by any neuralgia. The patient was a lady between fifty and sixty, in whom secondary pain would naturally have been expected. Unna recommends as the best abortive treatment to paint the vesicles on their appearance with equal parts of ichthyol and water. The constant current also is useful in removing the secondary pains ; and according to Duhring, if used early enough,

may cause the disease to be arrested, the pain ceasing and no eruption coming out. From five to ten cells are enough, the current being applied for fifteen to twenty minutes twice a day if possible. When there is distinct tenderness in the patches of skin where the vesicles were, or in the scars, painting the parts twice a day with camphor chloral, and covering them with cotton wool or a silk handkerchief, affords much relief. The state of health in general must be considered and treated on ordinary principles.

Though in some respects the exciting causes are distinct, the morbid appearances presented by *herpes febrilis* and *herpes progenitalis* are very similar, and there are many features common to both. Thus in each the groups of vesicles form near the point of junction of the mucous membrane and skin, or on the mucous membrane itself, on or near the lips, the nostrils, or the ear, and within the mouth, on the prepuce, the glans penis, or in women on the labia. In both, sensations of burning in the part precede or accompany the eruption, but pain is seldom complained of. At times itchiness succeeds the disappearance. There is commonly but one group of vesicles; occasionally there may be several, and then the resemblance to zoster is pretty close. Thus in one instance there was a group of vesicles an inch from the right side of the angle of the mouth —one on the upper lip, which slightly overlapped the mesial line, and one on the chin. Instead of a group of vesicles a single bleb may form, the entire epidermis of the neurotically affected area being raised *en masse*. A central, or nearly central position, is the commonest one. Each patch is seated on an erythematous base. The duration of the vesicles is short. The vesicles come out suddenly, clear at first, they become milky in a few hours, and the resulting blackish crusts fall off in the course of four or five days, leaving merely a pinkish macule, unless when the red portion of the lip is attacked, in which case the movement of the part and the contact of the saliva may protract the cure. When the clusters of vesicles form on the mucous membranes, as on the inner side of the cheek, the uvula, or the labia

minora, the walls, being tender, rupture easily, and a superficial erosion or ulcer is seen, which in the one situation may be mistaken for diphtheria or aphthæ, in the other for a venereal sore. There is very seldom, however, any consecutive swelling of the lymphatic glands, and the duration is almost too short for that of a soft sore; this too hollows out very rapidly, so that at the end of twenty-four hours an excavation may be readily recognised. Both forms manifest a marked tendency to recur in the same localities at a longer or shorter interval, and both are diseases of youth and early adult life.

Herpes febrilis is met with in the course of many pyrexial affections, in cases of pneumonia, or in association with a common catarrhal seizure. Any disorder which is preceded by a rigor is liable to cause an outbreak; it has in consequence been seen after the passage of a catheter. Mr. Hutchinson has regarded it as pathognomonic of the occurrence of rigor.

Greenough[1] and Unna[2] have done much to clear up the causation of herpes progenitalis. In males, in the majority of cases—one can scarcely agree with Greenough, and say in all—the patient has suffered at some previous period from one of the three venereal diseases—soft chancre, gonorrhœa, and hard chancre; the sequence indicates the relative tendency to be followed by herpes. There is certainly no pre-existent rigor or febrile condition in herpes progenitalis, this being a point of dissimilarity from herpes febrilis. Unna has seen many cases of herpes progenitalis in prostitutes, but agrees with other writers that it is excessively rare in any class except these. He ascribes the frequency in prostitutes to excessive genital irritation; and this opinion is supported by a case related by Black,[3] that of a young widow who suffered from intense itchiness of the genitals after menstruation. This led to friction of the parts, which caused congestion and regularly recurring herpes.

[1] *Archives of Dermatology*, 1881.
[2] *Journal of Cutaneous and Venereal Diseases*, 1883.
[2] *Ibid.*

22. A young man consulted me about a herpes progenitalis which had frequently recurred for some years. On being questioned as to his ever having had any form of venereal disease, he declared he never had, but that for some time antecedent to the first appearance of herpes he had had very frequent connection with a young woman who had, during at least part of the time of his association with her, a very abundant leucorrhœal discharge. In another case herpes progenitalis of the glans followed a soft sore of the penis.

The appearance of the vesicles is not usually immediately after the stimulation of the parts, but in course of two or three days. Gerhardt thought that labial herpes was due to sudden compression of the nerve in the osseous canal of the inferior maxillary bone. And, following the same train of reasoning, Unna suggests that compression during the genital congestion may be the exciting cause of herpes progenitalis. The more delicate the surface in men, the more the liability to herpes ; thus it is far more common in those who have a long prepuce than in persons who have been circumcised, or whose prepuce is naturally short. Both diseases seem purely local, and no crisis in the associated disease occurs in connection with the outbreak of herpes febrilis.

I have seen, both in private and at the Royal Infirmary, a considerable number of cases of herpes progenitalis in men, none in women, and in a large proportion of these the individual had suffered from a chancroid. It would thus seem to be a sequel —occasional, it is true, yet perhaps more frequent than is supposed—of the soft venereal sore, and also now and then of gonorrhœa. This cannot be accounted for on the theory that those who have had such ailments are in the habit of inspecting the genital organs more frequently and more minutely than those who have not, for herpes progenitalis is rare in sexual hypochondriacs of the ordinary class. In my experience the soft sore was by far the more frequent precursor.

Epstein,[1] in a paper designed to ally all the three varieties

1 *Vierteljahresschrift für Dermatologie und Syphilis*, 1880.

of herpes more closely, gives reasons for regarding herpes progenitalis as of traumatic origin. The deeper the cause lies in the central nervous system, the less likely is it to recur in the same individual. Yet he has been able to collect quite a number of instances where zoster recurred, in some repeatedly; thus proving that too much stress has been laid on the occurrence of zona once for all in the same person.

Arsenic, which was cited as a possible factor in causing herpes zoster, has some influence in warding off recurrences of herpes progenitalis. The employment of astringent lotions, as of tannic acid in spirituous solution, or of sulphate of zinc, or alum, which tend to harden the tissues, may do something to protect the parts. In using these we are apparently following nature, since, with the increasing toughness of tissue in advancing life, the attacks become rarer, and finally, soon after forty, cease to occur. In obstinate cases circumcision has been practised with benefit. The vesicles themselves in both forms should be protected by being painted with flexible collodion, or if on the glans by the interposition of boric or salicylic cotton wool between it and the prepuce. For the excoriations and ulcers on the mucous membrane of the mouth and fauces, painting with a saturated solution of boroglyceride in glycerine several times a day does most good, and should the resulting breach of continuity in the tissue refuse to heal, it may be painted with a solution of chromic acid, ten grains in an ounce of distilled water, two or three times daily, as recommended by Butlin, in mucous patches of specific origin of the buccal mucous membrane or of the tongue.

Illustrations of herpes zoster are in all the atlases. A good plate, showing groups of vesicles, some hæmorrhagic, and following the course of several thoracic nerves, is to be found in Wilson's *Portraits of Skin Diseases*, Plate AY, while Plate VIII. of the *Sydenham Society's Atlas* shows frontal zoster. The arrangement of the vesicles in herpes progenitalis will be seen in Plate XXV. of *Tilbury Fox's Atlas*.

Allied to herpes zoster in appearance, though pathologically distinct, is the rare disease known as *lymphangioma circumscriptum*, and its description would seem to come most appropriately here. In it there are clusters of more or less permanent vesicles, usually closely aggregated, and having a somewhat peculiar warty aspect. The vesicles themselves have tough and resistant walls, over which vascular tufts or striæ can be seen in some cases to run. When this occurs a purplish, blackish, or even a bright-red hue is imparted, according as the capillaries are venous or arterial, or the blood contained in them is fluid or coagulated. If punctured a clear liquid escapes, limpid or gelatinous, alkaline in reaction, and containing a few lymph corpuscles. The affection has been met with on the face, neck, deltoid and scapular regions, on the arm, thigh, back, and genitals. There are no subjective symptoms. About a dozen instances have so far been recorded. Two have come under my care. One[1] on the shoulder of a boy—and the complaint is most common in males—of eight, first noticed in infancy. Fresh vesicles evolved from time to time, while others previously existent have vanished, leaving no trace. The other, on the face of an elderly woman, a cook, in whom the disease had manifested itself late in life. Noyes and Török[2] have conclusively proved that the process consists in a new growth of lymph vessels, partly also of blood-vessels, and in a transformation of these into cavities and wide canals. But as to the cause we are yet entirely in the dark. Mr. Hutchinson regards it as related to lupus, but this view is not shared by other observers. In the case of the female referred to, much improvement, indeed practically a cure, resulted from the application of salicylic and creasote plaster muslin as in lupus. It is well illustrated in the first part of *The International Atlas of Rare Skin Diseases.*

[1] *Trans. Edin. Med. Chir. Soc.* 1889-90, p. 146.
[2] *Brit. Journ. of Dermatology*, Dec. 1890, Jan. 1891.

CHAPTER XI.

DERMATITIS HERPETIFORMIS.

It is matter of common experience to the resident in any large city, with what comparative frequency he seems to meet one to whom he has been recently introduced, also a town-dweller, but hitherto unknown. He has now learned to note and recognise him in the crowd of passers-by, and he finds himself astonished that a face become at once familiar had been beforetime unobserved. The same thing occurs in Medicine. Some one more watchful than his compeers isolates, from what has appeared a tolerably harmonious group, a class of cases possessing certain features in common, describes them afresh, and attaches to them a distinctive name, which at once invites popular attention. Should his conception prove correct, additional and confirmatory evidence is soon forthcoming, the position of the new disease becomes established, and fresh light is shed on much which was previously obscure.

It is thus with the disease, which almost certainly includes several varieties, named by Duhring Dermatitis herpetiformis, but which some with much less reason would prefer to call Hydroa. Bazin undoubtedly recognised the complaint, and gave a somewhat precise description of three forms, yet his observations must have been founded on the examination of an insufficient number of instances, since one of the best marked of his types has been discarded, while another has till recently been denied a place. Thus his vesicular hydroa is now viewed as identical with herpes iris, a variety of erythema multiforme,

and his hydroa vacciniforme is not admitted as a definite known disease either by Liveing or Crocker. Tilbury Fox also was acquainted with the class of cases under consideration, but like Bazin he somehow missed the opportunity of making an effective picture, yet some examples were identified from his description. Duhring was more fortunate, and we must add more persevering in the face of many difficulties and a good deal of adverse criticism and actual incredulity. He repeated time after time his propositions, published case after case, and thus succeeded in fixing attention. His views have gained novel aspects and assumed a wider scope, as a result of the masterly inductions of Brocq[1] and the trenchant writings of Unna. Little is now left save to fill in details, and thus to complete a chain already fairly continuous.

The definition formulated by Unna[2] is perhaps as good a one as is at present available in the existing state of our knowledge. Dermatitis herpetiformis is, according to this, "a chronic, sometimes an acute, neurosis of the skin, not markedly interfering with the general health. This causes a more or less universal eruption, associated with burning and itching sensations, and regularly recurring after intervals of complete or comparative immunity. The type is erythemato-bullous, which, however, may undergo considerable modification."

There are four features characteristic of the complaint. 1. The polymorphic nature of the eruption. 2. The paræsthesiæ which accompany it. 3. Its course, in the main chronic, exhibiting a decided tendency to relapse or recur. 4. The relatively good state of the general health. All these need careful consideration.

1. The polymorphic nature of the eruption. This is twofold. In each case there are two, sometimes more, forms of primary or secondary eruption present at the same time; and again, the characters of the eruption may vary in successive

[1] *De la Dermatite Herpétiforme de Duhring.* Paris, 1888.
[2] *Monatshefte fur praktische Dermatologie,* 1st August 1889.

outbreaks. The type has been defined as erythemato-bullous. Erythematous blotches or flat papules are always to be found at some, usually an early, stage, and as a rule make up the bulk of the lesions, but vesicles, bullæ, or pustules may one or all be met with in association with blotches or flat papules. The erythematous patches are in themselves commonly pretty well defined. Now and then they resemble the wheals in urticaria, and this peculiarity is occasionally specially marked in the case of children. In some instances the vesicles develop on the erythema or papule, in others the vesicle or bulla—which latter may be of large size—is marginal or quite distinct from the erythema. The primary pustular form is certainly the more rare, its occurrence may be due to the general health being much lowered, but it may also be explained, as Unna thinks, by the invasion of pyogenic organisms. The vesicles are not limited to the skin, they have been seen on the mucous membranes, as inside the mouth. One distinctive character must be noted, that the lesions are grouped, herpetiform, not isolated. The crusts or hard flat scabs which succeed the vesicles are peculiar. They are somewhat angular in shape, are hard, dry, and brown. In one variety the face, neck, hands, and exposed parts are primarily at least, and in most cases solely, attacked. In others the eruption shows a partiality for the neighbourhood of the articulations, and for covered portions of the body, but while it starts from these localities, it may extend widely. The form which is limited to exposed parts, as a rule commences in early childhood, while the other and more common of the varieties may begin at any period of life. The first mentioned form leaves scars which may be extensive, the ears in particular suffering, and the cicatrices so produced prone to contract and occasion disfigurement. In the milder types blotches or stains, pigmentation, leucoderma, or even minute white glancing scars, represent the conditions seen in some persons on the subsidence of the more acute symptoms, or, when the eruption has vacated one

part to attack another, such changes are left, temporarily at least, in its wake.

2. The paræsthesiæ which accompany it. Itching is complained of in all those cases where the covered parts of the body are affected. The itching is usually intense and distressing, but it is not constant, it is apt to become aggravated at times. Before, or concurrent with, the eruption of a fresh crop of lesions, itching is a prominent symptom, but when the vesicles have formed or the papules have risen, the itching becomes less in degree, to awake again with the formation of another batch of blotches or the appearance of new blisters. In the form which attacks the face, ears, and hands, pain or burning sensations in these parts precede each exacerbation. Since in these cases the disease is usually quiescent during the winter months, there is then a period of freedom from subjective impressions, which, however, manifest themselves as the complaint reasserts itself in spring or early summer.

3. Its course, in the main chronic, exhibiting a decided tendency to relapse or recur. Unna regards this as the most important symptom of the disease, and until these features have manifested themselves unmistakably, he would reserve his diagnosis. This, however, necessitates the introduction of the element of time, and while such may render our opinion a more precise one, there are cases which can be identified before this has fully declared itself. Some authors, as Brocq, speak of an acute form. An example of this kind has been put on record by Hautecoeur,[1] but this refers more to the rapidity with which the lesions themselves evolve than to the absence of recurrences. Chronicity, indeed, may be conceded as essential, while fluctuations in intensity, relapses, or true recrudescences, are parts of the ailment. Such may finally terminate or be indefinitely absent.

4. The relatively good state of the general health. Considering the extent of surface involved and the severe itching, rendering sleep unrefreshing, the maintenance of health of a

[1] *Annales de Dermatologie et de Syphiligraphie*, 25th Janvier 1890.

fairly high standard is remarkable. Still, some patients complain of weakness—so much so, indeed, as to necessitate their taking to bed. There is sleeplessness and emaciation, or at least some loss of flesh. One symptom is pretty constant, though its cause is obscure, this is the occurrence of diarrhœa. More males than females are affected in the generalised form; that localised to the face, hands, and exposed parts has so far only been seen in males. The duration is quite undetermined in the generalised form. The localised ceases or much lessens in severity about or before the twentieth year.

Many authors now include those cases which have been described under the term herpes gestationis as a part of dermatitis herpetiformis, the circumstances of the patient modifying a little the features displayed. The eruption may appear either during pregnancy, usually not earlier than the tenth week, and may continue more or less well marked till delivery or even till lactation is established. In this case there is often a fresh outbreak or an intensification of the complaint shortly after delivery. Or it may not manifest itself till some days after the confinement, and may last for one, two, or even three months as a series of outbreaks, each of these being preceded, in nearly every instance, by itching sensations. It is liable to recur in successive pregnancies, but there are cases on record in which a mother has escaped an attack in some while she suffered in others. It is apt, however, to increase in intensity and extent at every fresh recurrence.

This form of dermatitis herpetiformis starts on the limbs, in particular on the hands and arms, though it occasionally first appears near the umbilicus. The lesions resemble those described, pustules are rare, unless the transformation of the vesicles into pus be regarded as such. The general health and the appetite remain good, even though, as Brocq remarks, those affected are fatigued or even prostrate. Sometimes the relish for food fails at the commencement of a seizure, but is regained though the complaint persist.

But this does not exhaust the relationships of this peculiar disorder. In 1872 Von Hebra described a pustular disease of the skin of much gravity, and which he looked on as allied to the herpes group. This in time came to be referred to under the name of impetigo herpetiformis. Only some fourteen or fifteen cases have been published, and all with one exception have so far ended fatally. It was at one time thought that it occurred exclusively in pregnant women, but Kaposi has related an instance in which it affected a man.[1] Small yellowish, superficial pustules appear, which begin as such and remain unchanged throughout their entire course. These are arranged in groups or circles on an erythematous base. The pustules tend to run together and to dry into yellowish, greenish, or brownish crusts, beneath which is a red, moist, excoriated surface. This heals without ulceration, leaving no cicatrix. At the periphery of these patches fresh groups or rings of pustules develop, and in this manner the disease spreads over wide areas. The inner sides of the thighs and the anterior surface of the body are the seats of the eruption at first and preferentially, but in process of time it may extend to other parts, or even invade the mucous membrane of the mouth or elsewhere. Each outburst is preceded by rigors, fever, and disturbance of the general system. The question of kinship has been carefully considered by Duhring,[2] and on perusal of his arguments one must, I think, go even further than he is quite inclined to, and conclude that such cases are best classed as examples of the pustular form of dermatitis herpetiformis. The main difference arises from the fact that such are pustular throughout, and that a species of septicæmic infection occurs. The pregnant or parturient state affords special facilities for the development of danger from this source. Sherwell has come to a similar conclusion from the consideration of a case which came under his own notice.[3]

[1] *Viertelj. fur Derm. und Syph.*, 1887.
[2] *International Journ. of Med. Sciences*, March 1890.
[3] *Journ. of Cut. and Genito-Urinary Dis.*, Dec. 1889.

Before proceeding to discuss the nature and diagnosis of the complaint, the relation of typical examples, illustrating as many varieties, may serve to render the picture already sketched more complete.

23. T. M., twenty-three, stoker of a locomotive engine, came to see me on 21st October 1889. He was a healthy looking man with a good fresh colour. Nine months since he was much over-heated, then perspired profusely, and immediately after the present eruption appeared. This has since then never entirely left him, though at times pretty quiescent, again to suffer fresh exacerbations. It first showed itself on the chest, from thence it spread to the arms, back, thighs, buttocks, neck, face, and head. There was in the very early period not much itching, but this became intense later on. When the first outbreak occurred, he felt hot, sick, and vomited, and his appetite failed. Before any exacerbation he again was squeamish, and was compelled to go to bed for a couple of days. He did not regain his inclination for food till recently, and was weak. When seen he was much better, though there was no improvement in the condition of his skin. His tongue was clean, all the functions were normally performed, some constipation which persisted for a time had ceased. There was no history or the least presumptive evidence of syphilis. The localities affected were the neck moderately, and face slightly. The sides of the thorax markedly, the axillæ and margins of the axillæ, the clavicular and scapular regions. On the arms, while the deltoid region, over the elbows outside, and in the flexures inside were affected, the remainder of the arms and hands were free. The eruption notably occupied the lumbar and sacral region, extended across the abdomen, spread down the thighs, being prominent on the nates, and was seen in the ham; but the sternal region, that between the scapulæ, the legs elsewhere and the feet were not invaded. In several other instances in men the very same portions of the body were those alone or most specially implicated.

The eruption consisted of the following elements:—1.

Erythematous patches, varying from a pea to a shilling or larger, irregular in shape and distribution, but numerous. These were bright red in hue, and gave rise to a certain degree of infiltration of the skin. There were also red macules due to lesions which had formerly been existent but had disappeared. 2. Vesicles and small bullæ. These were tense and of a clear pale straw colour, with little tendency to rupture spontaneously. They were found in groups of three or four or more, were seated sometimes on unaltered skin, at others on an infiltrated base; some had, many had no areola. The largest were in the neighbourhood of the axillæ. They were in great measure placed marginally as regards the erythema. 3. Scabs and thin, firmly adherent, often angularly-shaped crusts, the results of former vesicles, partly, however, of scratching which had caused oozing. 4. Pigmentation, well marked near the axillæ and on the thorax, as deep brown staining, but present also on other parts, as the abdomen and groins, very noticeable over the sacrum and lower dorsal region. 5. Leucodermic patches or spots scattered here and there throughout the pigmented areas. 6. Some minute scars.

The itching was most troublesome at night, or when he became hot, and at such times was nearly unbearable. He was admitted into Ward 4, under the care of Dr. MacGillivray, where he remained till the 29th November. By the kind permission of Dr. MacGillivray I was able to direct the treatment. This consisted of nightly warm baths of starch and potassa sulphurata, followed by painting with a boracic calamine lotion, and the administration of arsenious acid in pill, the dose being at first one-fiftieth, later on one twenty-fifth of a grain, thrice a day.

In the end of November the itching had ceased, and no fresh bullæ had come out for some time. The skin was everywhere smooth, the pigmentation much less, the leucoderma less marked, while he felt quite well, so that he was discharged. He wrote to me twice subsequently to his return home on the 18th December. By the end of the year he was again nearly as bad

PLATE III.

DERMATITIS HERPETIFORMIS.

as ever, though the eruption was confined to the upper part of the body.

The following case has been seen at intervals for more than two years, and is now apparently cured:—

24. G. W., seventy-three, upholsterer by trade, has been a total abstainer for fifty-two years, and when an apprentice only indulged very moderately in ale. He does not look his age, his hair and beard are iron gray, while he is active and intelligent. He was first seen in June 1888. He was in good health and made complaint of nothing save the eruption, the itching, and consequent sleeplessness. Two months ago some red blotches showed themselves on his left elbow, each extended at its margin, while it faded in the centre. Then similar erythematous patches came on the right elbow, at margin of the axillæ, over the sacrum and lower part of the loins, and finally on the shoulders. At first there was no more than erythema, in some situations an inch, in others less in breadth, but a month since large vesicles and bullæ formed on the advancing edges of the patches. On the loins especially the eruption extended widely. He was ordered ten grains of iodide of potassium thrice a day, and a calamine lotion containing a little perchloride of mercury locally. The medicine caused iodism, much pain, a great increase in the number of bullæ, some forming in the mouth, and had therefore to be discontinued in course of a few days. In October of the same year pustules appeared in place of bullæ and vesicles, but these ceased under the use of nitro-hydrochloric acid and strychnia. In December 1889 it is noted that while the same localities are still implicated, at present the blisters are limited to the scrotum, penis, and inside of the thighs, but are accompanied by great heat. There were now seen patches of pigmentation, and white glancing scars or spots, as well as erythema and crusts. For a time baths of potassa sulphurata and starch, when not taken very hot, relieved him, but eventually seemed to aggravate the eruption. In the middle of October 1890 he was quite well as regarded the eruption, all the discoverable remnants being some staining

and red mottling of the skin in the localities previously so severely affected. He ascribed the cure to his having bathed himself with a moderately strong solution of borax in water at night, and with a weak solution of permanganate of potass in the morning.

When dermatitis herpetiformis attacks children the appearances vary somewhat from those seen in adults. The following case illustrates one form, at least, which the disease assumes in them:

25. J. D., two-and-a-half years, an only child, who looks pale and not very robust. Six months ago the present eruption appeared, and has been better and worse ever since. A small patch of erythema first comes out, and on or near this a vesicle forms, or a bulla, with clear straw-coloured contents, this flattens down and partly becomes crusted over, or from scratching becomes excoriated, and finally only a stain remains. At times, however, there is left a white mark with pigmentation round it. The limbs are specially affected, as also the nates and lower portion of the loins, but there are numerous lesions on the back and abdomen. The grouping of the vesicles is not so distinct as in adults. Itching is most annoying when the erythema or bulla first appears, and is less distressing when they have fully developed, and in the intermissions between successive outbursts of eruption.

Occasionally the appearances assumed resemble those described by Bazin as his hydroa vacciniforme, as in the following case:

26. M. D., three years, came on 7th September 1886. He was a healthy child, whose parents live in good circumstances in a country town. He has been troubled with what his mother calls heat spots ever since he began teething, but it is only since he was permitted to wade in a river one hot day two months past, that the eruption acquired exactly its present characters. These are, first, a minute pin's-head spot appeared, a papule with a red areola. The areola extended, and the papule became a vesicle, flat and chambered, in fact a pock. This ruptured, a

crust formed in the centre, while the flaccid walls of the vesicle remained as a collar within the still persistent areola. As the crust dried, radiating lines could be traced from it, arranged in a stellate fashion like the spokes of a wheel, and thus the resemblance to vaccinia was very close. These were found on the arms, trunk, and nates, where they were pretty numerous, and also on the legs. Itching was troublesome, especially at night. He was ordered a bran bath at night, followed by the application of zinc ichthyol glycerine jelly, and Fellow's syrup internally in suitable doses. Three weeks later many of the vesicles had healed, few new ones had come out, distinct white marks had been left by some. In course of a short time he quite recovered, and has been free from any recurrence since.

A third form of dermatitis herpetiformis, which essentially differs in some important particulars from those previously related, is that which attacks the exposed parts of the body almost exclusively, the localities affected being nearly identical with those involved in xeroderma pigmentosum. Only a few instances have so far been published: one by Mr. Hutchinson,[1] two by Unna, with notice of three more,[2] one by Dr. Handford,[3] and two by myself.[4] The cases present some remarkable features in common. All have occurred in males. In Unna's cases, where three brothers and one half-brother were affected, the sisters escaped. It commences as a rule in early childhood, and recurs throughout youth, lessening in adolescence, and apparently ceasing as manhood is attained. In some instances there seem to have been attacks in winter, but in most the recurrences took place from February or March to October, being suspended till the return of spring. Exposure to the rays of the sun promptly evoked an attack, and the acme of the annual seizure was always in the hot season. The eruption was erythemato-bullous, or erythemato-vesicular, and was preceded by sensations of burning,

[1] *Trans. Clin. Soc. of London*, 1889.
[2] *Monatshefte f. praktische Dermatologie*, 1st August 1889.
[3] *Illustrated Med. News*, 1889. [4] *The Lancet*, 18th August 1888.

tension, or pain, rather than of itching. It implicated the ears in particular, the face, neck, and backs of the hands. Each attack was more or less sharp, was accompanied by constitutional disturbance as well as local uneasiness, and was followed either by entire or partial relief for a time. The eruption led to scarring, occasionally to pigmentation. Hence this form also approximates to Bazin's hydroa vacciniforme.

The following case, one of those of which an account appeared in *The Lancet*, has been seen by me at intervals during nearly six years, and is in all respects a typical one:

27. R. F., eighteen years, a strong, well-grown lad, was brought up in the country, though for some years has been resident in town. The complaint began, according to his mother's statement, when three years old. His parents are healthy, and neither they nor any of their other children or known relations are affected similarly. The attacks came on in February, and he was liable to them till October, then he remained free till the next spring. Before an attack he felt chilly, or at least had to stay near the fire, then the face and sometimes the hands swelled, became red, and burned, but were not itchy, nor could scarcely be said to be painful. Red blotches now appeared, on which flat vesicles formed, each from a pea to a sixpence in size, the erythema persisting as an areola. The centre of the blister soon assumed a dark reddish-brown tint, and became dry, while the margins continued vesicular like a collar. Some vesicles ruptured, and the contents dried into crusts, which were thick, friable, and yellowish, greenish, or black from blood. From their first appearance till the skin was again whole a period of three weeks usually elapsed. Then an interval of various duration might intervene, or a fresh crop would at once appear. The ears were most seriously disfigured, some portions of the auricle having been entirely lost, imparting a crenated aspect to the edge. All the sides of the face, the neck, and to some extent the backs of the hands, are now studded with cicatrices, left behind by the blisters, and there are stains of yellowish-brown

pigment the size of a threepenny piece scattered over the cheeks and forehead. There are also some scars on the legs, as the vesicles formed there when he wore short trousers as a boy. The attacks are now much slighter. Thus in May 1890 only three or four vesicles appeared. He had at that time a pretty sharp diphtheria, for which he was admitted into the City Hospital. From this he made a good recovery, and several weeks later no fresh blisters had shown themselves.

In another similar case in a country lad of healthy family, and himself ruddy and well grown, the first attack did not manifest itself till he was thirteen, but recurred within the same limits as to time of year as in the previous instance. The scarring was, however, much less noticeable, though it was also marked on the ears. When he had reached nineteen the outbreaks were evidently diminishing in severity. Possibly the comparative mildness was owing to the disease having commenced later in life. A case occurred in Dr. Muirhead's practice, and was related to me by him, where a boy suffered from precisely the same lesions, but where an important observation was made as to the influence of diet. When he was kept on vegetable food, and meat withheld, the outbreaks ceased, or at least were slight: so soon as meat was given an outburst followed, again to be checked by its withdrawal. These observations may have some bearing on the leucomaine theory, to be noticed shortly, and would at all events seem to point to a disturbance of secondary digestion.

Mr. Hutchinson who, like myself, has remarked the close relationship which these cases bear to xeroderma pigmentosum, or "Kaposi's Disease,"[1] considers that another group of skin diseases, to which he formerly attached the name of "Summer prurigo," ought to be placed side by side with them. In these latter the eruption is sometimes erythematous, sometimes papular or abortively pustular; it commences in childhood or early youth; it affects the face, neck, backs of the hands and arms

[1] *Lectures on Rare Diseases of the Skin*, p. 126.

particularly, but it may become nearly universal. In all cases, however, the palms and soles and the flexures of the joints remain free. It is associated with much itching, occurs almost exclusively during the warmer months of the year, and leaves small scars. These features unite even more closely this with the previously described forms of dermatitis herpetiformis, and thus we have here representatives of the erythematous, papular, vesicular, and perhaps pustular forms. "The influence of the sun in producing the eruption appeared," Mr. Hutchinson says, "to be equally well marked in both cases, but the form assumed by the eruption was very different."[1]

When we consider the causation of this disease, one point is the frequency with which it occurs. I find that out of 770 cases of skin disease seen in the Royal Infirmary, there are six examples of dermatitis herpetiformis; two of these were in men, aged respectively fifty and thirty-five, and four in children, the youngest being a girl aged two years; the other three were boys, aged between seven and eight. In my experience it is by far most common in the male sex, only one or two women affected with it having come under my notice. It is not so infrequent in children of the female sex, but the numbers are yet too small to be worth much for statistical purposes. As to the pathology of the complaint, we may reject for the present any idea of its being due to an animal parasite; there is no proof whatever of its being communicable. Two opinions are held: one, that it is a trophoneurosis; the other, that it is due to an auto-intoxication by leucomaines,—those alkaloids produced, according to Gautier, in the normal metabolism of the albuminous tissues of animals independently of any bacterial agency. The two theories have been well stated by M. Hallopeau.[2] In favour of the trophoneurosis, there are the paræsthesiæ, the symmetry of the lesions, and the recognised possibility of the evolution of vesicles in association with nervous affections, but all these characters can

[1] *Trans. Clin. Soc. of London*, 1889.

[2] *Annales de Dermatologie et de Syphiligraphie*, Juin 1889, p. 564.

be found apart from neurotic disturbances. There is a striking analogy between dermatitis herpetiformis and some iodic eruptions, and it may be that from accidental or diathetic influences, the leucomaines constantly formed in the system can occasion an auto-intoxication. In support of this analogy it has been shown by Brocq, that the eruption in dermatitis herpetiformis is intensified when iodide of potassium is administered,—a fact of which corroborative evidence is afforded in one of the cases which I have related. The curious experience communicated to me by Dr. Muirhead, in which the eruption came and went as meat was given or withheld, also bears strongly on the leucomaine theory. Something the same view is held by Dr. Sherwell, that it is a reflex on the skin, started by septicæmia, pyæmia, or effete products from any source.[1]

The diagnosis must be based on a due estimation of all the characters of the disease, as already stated. Probably the complaint which would cause most difficulty is that known as erythema exudativum multiforme. It may be distinguished from this by the question of degree, and by positive differences in symptoms. Dermatitis herpetiformis has a much greater tendency to form vesicles, bullæ, and in rarer instances pustules; but apart from this there is the intense itching, the mode of evolution, the peculiar arrangement of the lesions, and the prolonged duration,—points in which it contrasts strongly with erythema multiforme. The same features of polymorphism, of itchiness combined with the preservation of good general health, serve to separate it from pemphigus. The domain occupied at a comparatively recent time by pemphigus has notably shrunk in extent. A pemphigus pruriginosus has been described, but how far such exists distinct from dermatitis herpetiformis future observations must decide. In the course of urticaria, however, we do meet with bullæ as a further development of the wheal; but this is an accidental development: the cardinal symptoms of nettlerash are the more prominent, while in most cases local

[1] *Journ. of Cutan. and Genito-Urinary Dis.*, Dec. 1889, p. 458.

irritation will suffice to evoke typical wheals. The distinction from scabies is not always easy, particularly in children. The entire absence of any proof of communicability to others in close association with the individual affected is of great importance, for in many cases the lesions themselves are extremely puzzling to those especially who have not seen a typical example. This is peculiarly true of those rare instances where more than one member of a family is attacked. Thus in one case no fewer than five children were liable to outbreaks which came and went in an inexplicable manner, till the true nature of the ailment was revealed. The rapid spread, the localisation, and the contagiousness of scabies, are the features to be relied on to exclude it. Some medicinal rashes may simulate dermatitis herpetiformis. M. Brocq relates an instance in which salicylate of soda caused an eruption pretty nearly resembling it, but which declared its true nature by disappearing when the drug was discontinued, although iodide of potassium had been given, which would have aggravated the exanthem had it been due to dermatitis herpetiformis.

The treatment cannot be said to be yet satisfactory. In some cases baths of potassa sulphurata, two ounces in thirty gallons, with the addition of two or three pints of freshly made starch, and taken for a quarter of an hour at a temperature of from 95° to 98° at night, have certainly afforded much comfort, but in other cases, particularly if the heat named has been exceeded, have seemed to intensify the itching. In one instance this was manifestly due to the water being too hot, so that it stimulated in place of soothing the skin. Two applications are of value after the bath. One is the calamine lotion, to six ounces of which a drachm of boracic acid and one of carbolic acid, or of the liquor carbonis detergens, have been added. Or the following lotion, which both soothes and cools, is advantageous:—R. Liq. calcis, Ol. sesami, ana uncias tres.; Cretæ præp., Zinci oxidi, ana semi unciam; Acidi salicylici, drachmam unam. In several cases, more particularly in children, sulphur ointment, which may even

be made as strong as three drachms in the ounce, does more good than anything.[1]

Internally arsenic best restrains the evolution of the vesicles and bullæ, and the greatest benefit has been obtained by me from the pills of arsenious acid, one-fiftieth to one twenty-fifth of a grain thrice daily. Arsenic has been found to check the toxic effects of iodide of potassium, and is to some extent its antidote. Arsenic has the effect of increasing metabolism, but at the same time presents the curious anomaly, that though it apparently restrains the formation of vesicles and bullæ in dermatitis herpetiformis, it occasionally seems to provoke another vesicular eruption, viz. herpes zoster. The direct connection of this latter with special nerve disorders is well known and accepted, so that this action of arsenic in dermatitis herpetiformis also favours the leucomaine theory of origin. We may by such measures bring the attack to a termination, but we can by no method yet discovered protect from a relapse or a recurrence.

Schwimmer of Buda-Pesth records a case[2] in which thiol (a synthetically prepared substitute for ichthyol) was employed externally with success. Other remedies had been used without effect for three months; the patient was now painted regularly twice daily with a one in three solution in water for two or three days, and the skin then carefully washed with pure water. It was found that the vesicles and bullæ had disappeared even in this short space of time, being replaced by scurfs of thiol, while the skin below showed only moderate pigmentation. In two cases in which a fair trial was made of thiol, it appeared to me to exert but little decided influence on the disease, while its expensiveness is somewhat of a drawback to its extensive use.

[1] Duhring, *International Journ. of Med. Sciences*, June 1890.

[2] *British Journ. of Dermatology*, Sept. 1890; abstract from *Wiener klin. Wochensch.*, No. 18, 1890.

CHAPTER XII.

PRURITUS.

ITCHING is a symptom common to many skin diseases, and a prominent feature in certain constitutional states. Of the former, eczema in its later or scaly period, psoriasis and lichen planus, when spreading rapidly, are examples; while jaundice and diabetes may illustrate the latter. In jaundice, if the obstruction to the onward flow of bile be long continued, and particularly if it is complete, the orange-coloured skin becomes the seat of severe itchiness, ascribed to the bile acids arising to the surface and there undergoing oxidation. In diabetes, too, besides a more local irritation to be spoken of by and by, there occurs at times a general itchiness, possibly in like manner due to some of the saccharine matter permeating the epidermis and there setting up irritation. We know that sugar is a cause of a form of artificial eczema accompanied by a marked tendency to scratch, popularly called grocer's itch, or sugar-baker's eczema. If, then, sugar can, when applied externally, give rise to itchiness, there is no reason why, when a sugar manufactory is going on inside, the product, so elaborated, and which must pervade the tissues, might not in a similar way cause pruritus from within.

Itching is a superficial phenomenon, and Bronson[1] believes with reason that there is sufficient evidence to locate its essential seat in the epidermis. "Itching is evoked by such irritants as act upon this tissue much more uniformly than by

[1] The Sensation of Itching, *New York Med. Record*, Oct. 18th, 1890.

those that act on the derma. Thus it may be excited by external irritants that barely touch the surface, without the least intimation of a pressure-sense. The itching which is commonly observed in connection with the healing of wounds of the surface is not attributable to the granulating process. There is no itching in the granulations of an ulcer. It is only when the part begins to heal and to 'skin over' that the itching manifests itself. It is a symptom of keratoplasia, not of dermatoplasia. In those cutaneous diseases also that more especially affect the derma, itching is present only exceptionally, and because the epidermis is implicated secondarily. However provoked, the sensation of pruritus is always associated with a presentiment to consciousness as though a foreign body were in contact with the surface."

Pruritus may be either general or local, and the distinction is one which is quite a justifiable one, and clinically recognisable.

General Pruritus.—This, though occasionally encountered in the young, is only a frequent disease at or about the menopause, or in advanced life. Hans v. Hebra[1] regards it as practically the same as prurigo, an opinion in which he, however, stands almost alone. He says, "Prurigo occurs chiefly in young people of bad constitutions, and in the old age of fat people who have become thin. In the latter case it constitutes pruritus senilis. The only difference between this and prurigo is that the former affects the entire surface of the body uniformly, and is not so sharply confined to the extremities." In general pruritus there is either no eruption to be seen on the skin, or what is met with is secondary, and due to scratching. That form coincident with the cessation of the periodical loss is commonly associated with some degree of mental aberration, either hysterical or verging on actual insanity. One of the best instances, though an imperfect one, is the following.

28. Miss L., aged about fifty, and whose home was in the

[1] *Philadelphia Medical Times*, March 11th, 1882.

fenny districts of England, consulted me in July 1879. She had a worn and anxious expression, and a friend who accompanied her said she kept continually moving from place to place in the apparently vain hope of deriving benefit from change of scene. Her complaint was that insects were biting or stinging her skin, and caused so much irritation that she required to scratch vigorously to lessen it. The annoyance was greatest at night. On examining the skin it felt soft and pliant, but bore here and there slight excoriations, and marks of the nails. The animals were invisible to any one save herself, still, so assured was she of their existence, that it was evidently useless by any argument to undeceive her.

An explanation of this phenomenon is, that since we are constantly in the habit of referring sensations connected with the skin to an external cause, when such arise from one acting from within, and the mental faculties are perverted, as in insanity or hysteria or allied states, the same interpretation seems to the sufferer to hold good.

But general pruritus may occur within the cycle of the "change of life," almost as a solitary symptom, while the mental and bodily health are apparently normal. The disturbance to the economy occasioned by the cessation of a rhythmical function is then seen reflected in the hyperæsthesia of the cutaneous nerves; just as in other cases it manifests itself as causeless flushings, or as an inexpressible feeling of uneasiness.

Still by far the most numerous examples of general pruritus occur late in life, and then this is only one of the many symptoms characteristic of the old age of the skin. This senility is often premature, as far as years of mundane existence are concerned, yet is unmistakable in its clinical features. In general, the skin, as age advances, and when the plane of life—figured by Nasmyth with happy ingenuity as extending from the thirtieth to the fiftieth year—has been passed, acquires certain characters which have been summed up by White[1] as follows:—"It is

[1] *Boston Medical and Surgical Journal*, November 23rd, 1882.

usually thinner, drier, paler, rougher, more wrinkled, and in parts inclined to exhibit discolorations and excrescences." Each of these demands a few words of comment. The thinning of the skin in advanced age is due to shrinking in all its layers, and of all its constituents. The subcutaneous fat is often largely diminished, or, if present in considerable degree, the adipose cells are no longer full and plump. It is dry, because thus condensed, and because the sebaceous and sweat glands are atrophied, and as a natural consequence less active. This dryness of the skin is indeed the nearly constant precursor of pruritus senilis, and commonly precedes for a year or more the first symptoms of itchiness. It can be elicited on inquiry that perspiration had gradually ceased, often so imperceptibly that the fact had not attracted attention. The pallor of the skin is due in part to the causes already named, but also because the vessels have shrunk in consequence of the diminished demand for blood on the part of the inactive glandular apparatus, while their walls have undergone degenerative changes, and at the same time the central organ of the circulation has itself grown weaker. The roughness arises from the failure of the superficial layers of the horny cells to separate systematically. This normal desquamation is favoured during the active period of life by the alterations in tension which are taking place; the skin swelling and again contracting in exercise or repose; by the friction of the clothes; and by ablution; all of which are more or less defective or in abeyance in old age. The wrinkled aspect is caused by the action of the muscular and elastic tissue in the skin, which more readily throw the looser envelope into folds. The discoloration arises from the lessened translucency of the denser epidermis, the keratine having grown yellow through age, from accretion of dirt, and from an actual increase in the pigment of the deep cells of the rete. Occasionally the atrophied skin of age is peculiarly fine and silky in its texture, though there is an entire absence of perspiration.

These alterations are more pronounced in some cases than

in others; the age of the skin, like that of other organs, bears a relation to the manner in which it has been used, as well as to the way in which the life of its wearer has been passed. Thus the more placid tenor of a woman's life, after the child-bearing period is over, stamps itself on her skin, and appears to preserve it so that in them it is younger than at the same numerical epoch in man. It is not therefore to be wondered at that the innervation should, in some instances, participate in the alterations comprised in this normal process of decay. Indeed it is surprising that *pruritus senilis* is not much more common than it is. In it the lesions are entirely secondary, and the symptoms subjective. Itching, often intense, is the prominent feature; it may be of a stinging or burning character, or resemble the crawling of myriads of insects over the surface. These sensations are not constant, but are apt to be intensified at certain times and by particular causes. Commonly the act of undressing and the exposure of the body serves to evoke them; but the heat of bed may be in other instances even a more powerful excitant. Hot drinks and alcoholic indulgence, no doubt, from distending the vessels which cannot relieve themselves by perspiration, serve to increase the irritation or start it afresh. During the day, when the mind is distracted, the annoyance may be reduced to a minimum. From the violent scratching, too often unrestrainedly indulged in, in the effort to obtain relief, secondary effects are produced, the hairs are broken or torn off, and eczema or ecthymatous pustules are not uncommon. Yet in many cases the skin is soft and velvety, there are no traces of the nails or of friction, no evidences of scratching. Any region may be attacked, but the lower limbs, where the circulation and nutrition are feeblest, and the arms, which are more exposed, are the parts most surely implicated. The sleeplessness and peripheral irritation react on the general health, impair the intellectual powers, and indeed may totally incapacitate for any mental effort. The disease is worst in winter, when nutrition is lowered by cold, and when the too dry air of

the rooms, and the flannels worn next the skin, aggravate the hyperæsthesia. The subjects of senile pruritus are sometimes liable to bilious attacks, sudden accessions of acute gastric or duodenal catarrh. These occur at indefinite intervals, but cease or become much less frequent with the relief of the itching.

Illustrations of senile pruritus do not convey so much or so valuable information as in the case of most skin diseases, yet the relation of one or two may be advantageous. In the following one relief to the itching was certainly afforded by art, though the sufferer himself would not admit it.

29. M. H., eighty-two, a thin and wasted man, who remained constantly in bed. Two years before I first saw him he had an outbreak of universal eczema, which is still traceable in the form of slight patches here and there, but his main complaint is of intense itching, which prevents sleep and worries and annoys him. The skin is thin and atrophied, and over the tibiæ, in particular, is peculiarly smooth and glossy, like silk. The irritation may be severe enough, yet there are no, or but the faintest, evidences of scratching. He was miserly and ill-tempered. The tongue was clean; the digestion good; there was a little bronchitis. Of various methods of treatment, the application of a calamine lotion containing a small quantity of liquor carbonis detergens gave most comfort, while Easton's syrup, persevered in for some time, benefited his general health. Two months after he was first seen his skin was reported to be clean and free of eczema or marks of the nails, while he had improved somewhat in flesh, but he was a confirmed hypochondriac, and insisted he felt no better.

30. I was asked to see a gentleman, aged ninety-three, who had spent thirty years of his life in New Orleans, but notwithstanding his great age enjoyed, on the whole, good health. For the last four years he has suffered much from itchiness of the skin of the shoulders and legs. There is nothing to be seen on the back suggestive of the presence of pediculi, the skin of the legs feels hard, is dry and thickened, and looks as if it had been

dusted over with meal or flour. He was ordered bran baths at bedtime, and an ointment of boroglyceride in simple ointment. This did good, but the baths were never given a fair trial.

The diagnosis must be based on a careful review of all the symptoms, and lies pretty much between what may be termed idiopathic pruritus and the itching occasioned by pediculi or chronic urticaria. Pediculi may complicate pruritus, or actually give rise to it. The insects themselves may be seen on the linen, though we must be cautious not to hurt our patient's feelings in our search for them. The localities chiefly affected —the shoulders, or those parts where the clothes press in particular—if solely the situations where secondary lesions are to be found, will at least induce us to try parasiticide remedies, as stavesacre or carbolic acid. Inquiry as to the presence of wheals may enable us to diagnose or exclude urticaria.

The treatment of such cases is preventive and palliative, though we may even extend this latter, and say in some instances curative. The preventive consists in rightly appreciating the onset of the senile changes described, and by a suitable and timely hygiene endeavouring to arrest them, while at the same time all irritants to the surface and all excitants from within are averted. Thus the avoidance of ordinary alkaline soap for washing is especially desirable in old age. On the other hand, it is equally essential that the skin be kept clean, and for this purpose the over-fatty soap introduced by Dr. Unna, and manufactured by Douglas of Eimsbüttel, should be exclusively used. The proper time to take a warm bath for this purpose is at night, when the sedative effect of hot water is most needed, and the secondary tonic and refrigerating one most desirable as an aid to procuring sleep. Great comfort and relief to the itching can be obtained by using a 5 per cent menthol super-fatted soap, as suggested by Eichhoff.[1] This soap is at present manufactured by Ferd. Mühlens, Cologne. This when used in the bath imparts a pleasant sensation of coolness. In like manner a mild sulphur

[1] Volkmann's *Klin. Vorträge*, No. 4, 1890.

bath [made by dissolving half a drachm of potassa sulphurata in each gallon of water, and adding a basin of freshly prepared hot starch] is very valuable as aiding epidermic exfoliation, and deadening cutaneous over-sensitiveness, but this must be supplemented by subsequent inunction with some oleaginous substance. Quite recently Dr. Wulfsberg[1] of Christiania has extolled the value of lanoline in pruritus senilis. He uses equal parts of the purest anhydrous lanoline and lard, and there can be no doubt but that lanoline possesses advantages over any other fat in such cases. Lanoline, however, has the disadvantage of being sticky, and is with difficulty applied to the skin; purified whale oil is equally if not even more advantageous. In this some menthol may be dissolved, fifteen to thirty grains in six ounces, the compound forming a most reliable antipruritic. Silk should be worn next the skin rather than flannel, or if flannel, then the softest and fleeciest procurable.

If the circulation is in a condition to stand it, the subcutaneous injection of pilocarpine may prove curative if the disease is established. This supplies the defective *vis a fronte* by artificially stimulating the sweat glands, and as these have important relations to the production and maintenance of the subcutaneous fat, as Unna[2] has shown, we may by the use of pilocarpine preserve or restore this invaluable lubricant and admirable economiser of heat loss. This treatment ought to be carried out at night, after the patient has been half an hour or so in bed. A warm bath before retiring is an excellent adjuvant. In any case it is essential that the feet be quite warm. The dose to commence with should be the one-tenth of a grain, in the form of Wyeth's hypodermic tabloids. Shortly after its administration some additional bedclothes are to be placed on, and free draughts of a warm liquid—gruel, hot milk, beef-tea, or barley water—partaken of. Perspiration when induced should be encouraged by such means and maintained for about an hour,

[1] *British Medical Journal*, May 21st, 1887.
[2] Ziemssen's *Handbook of Diseases of the Skin*, p. 57.

after which time the imbibition of liquid should be discontinued and the excess of bedclothes gradually diminished. The effect is usually a refreshing and unwonted sleep of several hours' duration, though for a time itching may reassert itself towards morning. The dose may need to be increased in some instances to one-third of a grain, or even more, before free diaphoresis ensues. During the day tonic doses of Easton's or Fellow's syrup may be prescribed with advantage. My experience of this method of treatment now extends over a number of cases, with most satisfactory and so far permanent results. In the case even of a gentleman aged eighty-seven the relief from a most severe form has been complete. It is somewhat more difficult to carry out satisfactorily in very cold weather.

Cod-liver oil, if administered in small doses and with judiciousness at bedtime, exerts a further influence in restoring *embonpoint*, while a simple though sufficient dietary, in the elements of which milk should take a large place, and from which tea ought to be excluded, will best maintain health. Tea is particularly hurtful, for it checks retrograde metamorphosis, and favours the retention of effete and waste substances, when it is especially our object to increase tissue change and facilitate renewal. When secondary lesions and eczema have been induced by scratching, these must be cured by suitable means, the gelatine preparations being specially well adapted for this purpose. As direct local nerve sedatives, weak tar solutions, among which the liquor carbonis detergens, one in fifty of water, holds a prominent place, or a tar derivative, as carbolic acid, employed as lotions, commonly act best. The use of sedatives internally is by no means to be countenanced; their employment should, if they are resorted to at all, be restricted to short periods, at all events never persevered in for many consecutive nights. A combination of tincture of gelsemin and tincture of nux vomica, as recommended by Dr. Bulkley of New York, is safe, and sometimes very effective. Another remedy suggested by Bulkley is the tincture of cannabis indica, in doses of ten

minims thrice a day, well diluted, after meals. The dose may be increased gradually to twice or thrice that amount, and bromide of potass can be added if desired. When the weather is cold, and a fire is being maintained in the bedroom, the air should be kept moist by means of a bronchitis kettle. Even though we may be unable by these or similar measures to cure the disease, we can undoubtedly render it far less vexatious.

Both Hutchinson[1] and Duhring[2] have described a form of general pruritus which occurs nearly exclusively in winter or in cold weather, is a disease of northern climes, and is arrested or passes off when the temperature rises, or at the approach of summer. Dr. Payne has again brought it under notice,[3] and says regarding it—"Many persons suffer from itching of the skin in cold weather, especially when the air is keen, dry, and frosty. They begin to scratch when they take off their clothes to go to bed, and some can foretell from their sensations a frosty night. Others suffer more from the irritation when they become warm, more particularly from the radiant heat of a fire, but only when the outside temperature is low. In short, change of temperature more than absolute cold is the exciting cause, and dryness of the air is an important factor." The complaint is in my experience rare in Scotland, and very probably because the air with us is not, as a rule, dry in winter. The secondary lesions in no respect differ from those evoked by scratching induced by other causes.

For this condition change of climate would appear to offer the only chance of a cure. That selected must be one not liable to sudden alternations, while at the same time warm and moist. To obtain palliation all measures which will tend to prevent the desire to scratch are to be adopted. It has been recommended to wear linen next the skin, rather than silk or flannel. Of local applications Corlett has found resorcin the most bene-

[1] *Lectures on Rare Diseases of the Skin*, p. 108.
[2] *Philadelphia Medical Times*, 1874.
[3] *British Medical Journal*, May 7th, 1887.

ficial. It tides over the irresistible inclination to scratch, while its influence lasts from two to five hours, sometimes all night. The following is the formula he employs—

℞ Resorcini [Merck's] . . ʒi
Glycerini . . . . ʒii
Aquae distill . . . ℥iv—M.

Duhring finds vaseline gives greatest relief, probably menthol dissolved in purified whale oil would be still better. As to dietary, tea, coffee, and alcohol are to be avoided.[1]

Local Pruritus.—Of these we may distinguish three varieties —pruritus ani; pruritus genitalium; and pruritus digitorum pedis.

Pruritus ani is a common and troublesome affection, consisting in itchiness about the seat, and extending also to the perineum. Secondary lesions, as thickening of the skin, fissures, and the development of eczema, are common. When met with in children, sometimes also in adults, it may be due to the presence of Ascarides, which, emerging from the rectum at night to deposit their eggs at the anal verge, cause irritation by their movements. In male adults, less often in women, it is traceable to hæmorrhoids, or there may be no visible or tangible pile, merely varicosity of the smaller hæmorrhoidal veins and venules. The delayed current of blood here, as in the legs, gives rise to a tickling sensation, and prompts to scratch. Another cause is irritation of the genital apparatus, as stricture of the urethra,[2] or acute or chronic enlargement of the prostate, or merely some excessive though temporary congestion of these parts. The following case may be an example of this form.

31. The Rev. R. N., a fresh-coloured man, though not a very robust one, had lately married for the first time an attractive woman much younger than himself. He was aged between forty and fifty. For a year there has been annoying itching at

[1] *Journ. of Cut. and Gen.-Urin. Dis.*, Nov. 1890, Feb. 1891.
[2] *New York Medical Journal*, April 16th, 1887.

the anus, at one time only troublesome at night, but now during the day as well. The skin round the anus looks macerated, but not excoriated. The bowels are a little sluggish, but there are no thread-worms. There are no piles, and the rectum felt normal to the finger. Treatment of various kinds did him some good, but as the complaint in course of time subsided, I think that the unwonted congestion occasioned by marital relations was the cause.

The sufferers are usually sedentary men, clergymen, clerks, or business men whose occupation happens to be from its nature worrying or disquieting. The cause, therefore, should be inquired into carefully, in particular the habits of the individual as to diet, use of stimulants, tobacco; and frequently the liver is at fault, is sluggish, and the bowels are constipated.

In the treatment of such cases, therefore, the faulty state of the general system, if discoverable, must be corrected. An hepatic stimulant, as Oppenheimer's liquor euonymin et pepsin comp., is frequently of great value. As aperients, cascara, equal parts of sulphur and cream of tartar, the compound sulphur lozenge of Sir Alfred Garrod, or Friedrichshall water, are all advantageous in different instances. The patient should be directed to use a hard and flat seat, so as to remove the parts from pressure by resting the weight on the ischial tuberosities. Bangs cured one case coincident with acute prostatitis by rectal injections of hot water. Ascarides are to be got rid of by systematic use at night of enemata of lime water, strong brine, or infusion of quassia, with or without the addition of the tincture of the muriate of iron, while the fundament is smeared with an ammoniated mercury ointment. To do any real good, however, this treatment must be persevered in at intervals for weeks, else the worms will not be finally eradicated from their stronghold. When the hæmorrhoidal veins are varicose, a suppository of cocaïne will be found, if used at bedtime, to afford relief, and often to admit of sleep, while the rectum may

be emptied by a small tonic enema of cold water.[1] Sometimes the itching seems caused by the pressure of scybalous masses in the rectum, but in such cases the lining mucous membrane is probably over-sensitive. When this sensitiveness is present the proper treatment, after emptying the lower bowel thoroughly, is to inject into the rectum at night a wine-glassful of thin warm starch in which is mixed two drachms of liq. bismuthi. Externally and locally itching is immediately arrested by painting the skin close to the anus with a solution of nitrate of silver in spiritus ætheris nitrosi, fifteen grains to the ounce; the relief thus obtained is, however, seldom permanent, and a repetition is necessary. The parts should be bathed for a few minutes at night with water as hot as can be borne, then dried, and an ointment composed of camphor-chloral, one drachm in an ounce of simple ointment, applied. The nates should now be separated by the introduction of a pledget of absorbent cotton wool, and this kept in position by drawing on a pair of bathing pants. These latter have the additional advantage of almost entirely preventing the possibility of involuntary scratching during sleep. Menthol is also an excellent antipruritic; the menthol pencil may be lightly rubbed on the surface, or a solution of menthol in oil may be applied. Perchloride of mercury, one to three grains to the ounce of spirit and water, is also useful, provided the skin is unbroken and it is employed with caution.

Pruritus genitalium.—In men the scrotum and perineum are the regions commonly and chiefly affected. There are either no objective symptoms, or those seen are secondary. The causes are more obscure than those which give rise to pruritus ani. If the orifice of the urethra alone itches, then stone or diabetes should be suspected and sought for. Varicocele is occasionally a cause, and the pruritus may exist without any concurrent neuralgic pain.

[1] See on this, *The Indigestions Functionally Treated*, by Dr. T. King Chambers, 1867, pp. 268, 284.

The treatment consists in sopping the parts with exceedingly hot water by means of a handkerchief dipped in it, squeezed and applied for a moment. Then the scrotum when dried is dusted with a powder consisting of—

℞ Acidi salicyli	. . .	3·0
Talci Venetiani	. . .	87·0
Pulveris amyli	. . .	10·0

The parts should then be enveloped in a thin layer of absorbent cotton wool, and one of Unna's suspensory bandages worn,[1] which are far preferable to those in common use. Two other valuable applications are—a lotion of carbolic acid one drachm, glycerine one drachm and a half, alcohol and water each three ounces; and when there is eczema, a paste of resorcin and salicylic acid, each five grains, lanoline, vaseline, oxide of zinc, and powdered starch, each two drachms. This paste to do good must be smeared on very thinly.

Pruritus of the vulva causes intense suffering, yet is often endured for long ere advice is sought. It may be climacteric and connected with the cessation of menstruation. It is also associated with a varicose condition of the labial veins. Leucorrhœa is frequently a cause, the copious discharge putrefying, and then scalding and excoriating the mucous membrane. Diabetes should always be tested for, since the saccharine urine trickling over the surface deposits a thin layer of crystals on its evaporation, which directly excites itching.

When there is diabetes or glycosuria, bathing the parts with very hot water, and after drying, smearing them with an ointment of oxide of zinc and boracic acid, will be found an admirable palliative. In leucorrhœa, besides other measures, the employment of very hot vaginal injections of plain water, or of water containing boracic acid, are often sufficient to cure. In varices of the labial veins, painting the surface with the

[1] Dr. Unna's suspensory bandages can be had from Messrs. Duncan, Flockhart, & Company.

solution of nitrate of silver already mentioned affords much relief, and if repeated several times may even effect a cure. That form connected with the menopause is rendered bearable by the use of the hot douche, separation of the labia by pledgets of salicylic wool, and the application of an ointment of salicylic acid, oxide of zinc, and cold cream.

Pruritus digitorum pedis.— In this the spaces between and under the smaller toes itch when the stockings are removed at night, and then scratching may be indulged in till the skin bleeds, and the sensation of pain is produced. I have seen several instances where the complaint occurred in medical men who from attending to their practice on foot had adopted too exclusively a carriage. It has no connection with gout, as some have supposed. Even though relieved for a time, it tends obstinately to recur.

The treatment is best commenced by painting the parts with the solution of the nitrate of silver so often referred to, and then dusting the interdigital spaces with the salicylic and talc powder, while the toes themselves are separated by placing between them a thin film of salicylic wool. Occasionally the lotion of carbolic acid and spirit does good. The feet of course must be very frequently washed, the stockings changed often, and the shoes or boots should be broad and easy.

CHAPTER XIII.

LICHEN.

In dealing with the diseases termed lichen, we find certain special characters adhered to throughout, which render the group a well-marked one. The origin of the name has never been satisfactorily explained, and it has no evident connection with the botanical family to which a similar designation has been attached. The cutaneous lichens are all essentially papular, are dry eruptions during their entire course, and while the individual papules have a peculiar tendency to aggregate themselves into groups, and thus to extend over considerable areas, or even to spread over the greater part of the body, they undergo no transformation into any other of the primary lesions, nor are any other forms of eruption at all apt to be simultaneously present. All the varieties of true lichen may be classed under three heads *lichen circumscriptus, lichen marginatus,* and *lichen planus* or *ruber*. Other forms are mentioned in some works on skin diseases. One of these is *lichen simplex,* an itching eruption of small, closely set, and acuminate red papules, which are found on closer investigation to be quite indistinguishable from the papular form of eczema. *Lichen tropicus* in its papular form, the prickly heat of warm climates, is also a papular eczema. *Lichen pilaris* is a mere heaping up of effete epidermis round a hair, imparting a file-like sensation when the hand is pressed over the part. This accumulation of dry cuticle occurs on parts difficult of access when the body is washed, as on the outer aspect of the upper arm, or on the front of the leg over the tibia. It is

due in part to the extrusion from the hair follicle of the root-sheaths, and lining of the follicle carried upwards by the hair in its process of growth, and while in one sense a morbid condition, is present more or less in every one, though it is much more prominent in such as wash seldom, and on certain skins.

Lichen strophulus is a localised hyperæmia of the cutaneous glands, or of the papillæ of the skin, seen in infants as minute red acuminate papules. Too alkaline soaps, the irritation of flannel, and slight gastric disturbances serve to evoke it. It subsides spontaneously if soap be disused and the skin powdered with some simple dusting powder. It is important that infants which exhibit this tendency should be washed with some emollient soap, of which Unna's over-fatty soap is the best.

Lichen agrius is merely an inflamed papular eczema, in which the papules have run together and formed patches.

None of the forms of true lichen can be said to be very common, yet they are met with quite sufficiently often to constitute a decided source of difficulty in diagnosis.

Lichen circumscriptus is seen in its most characteristic form in children. The papules are minute, seldom larger than a pin's-head. They may be bright or rose red, at least when they first appear, and they tend to arrange themselves in crescents or circles, rather than in straight lines. When the patient is strumous the papules are pale red or flesh-coloured, and then we have the disease described by Hebra as lichen scrofulosorum, a lichen circumscriptus occurring in persons who have a scrofulous taint. Sometimes the papules form a group or patch, and their summits are usually covered with a few thin scales, and occasionally the papules may be so closely set as to form a rough, red, thickened patch of diseased skin. It is said that the papules in some cases become pustules; should such a transformation occur, it must be held to indicate a very much lowered state of the general health, or a well-marked scrofulous cachexia. Itching is seldom present to any degree. The course is slow, and some dark pigmentation remains after involution has taken place. The

chest, back, and flanks are the prevailing sites, but the limbs and face even may be involved. The following illustrates lichen circumscriptus in a lymphatic child.

32. N. L. (aged two years), was seen in March. She was a rosy and healthy child. Within a month an eruption consisting of dry papules, aggregated into patches and scattered irregularly over the body, has appeared. The patches, though rough, cannot be said to be scaly; they are of a pale red colour, and are well defined at their margins; while most occur on the trunk, there are some on the arms and legs, and even on the face. They caused her to be restless, in consequence of the itching which occurs at nights. Arsenic and a calamine lotion did no good, for on the 17th April it is noted that the patches have extended. There are two large oval ones on the flanks, which join others further back. When the hand is passed over them a sensation like that of rubbing a sheet of sand-paper is experienced. There are other and smaller patches which are made up of a crescentic ring of minute red papules, enclosing a fawn-coloured space. Ten days later some of the larger patches had faded in the centre, the skin there having become normal, others on the arms and legs having grown larger. The child seems now not in good health. She is pale, though her appetite continues fair. The disease was uninfluenced by any treatment, and spontaneously disappeared after lasting several months.

In the next case the form assumed resembled more closely Hebra's lichen scrofulosorum than any I have met with.

33. E. R. (aged five) was a delicate and markedly scrofulous child, who had been much troubled with eczema of the face, particularly of the nose and eyelids. Has also had scrofulous keratitis, with ulceration of the cornea. Preceded by slight feverishness, an eruption of papules, on a slightly hyperæmic ground, made its appearance. The papules were flesh-coloured, some a pale brownish-red, of the size of a millet seed, and were closely aggregated into roundish groups. They were limited in the first instance to the back, abdomen, and flank. They were

accompanied by slight itchiness, but were not scratched. She was seen on the 22d April 1877. On the 7th May some of the patches had partially faded in the centre, and the circumference only was distinctly papular. Fine scales replaced the previous papules, while those which remained bore a few of these on their surface. There had now appeared some fresh groups of papules. Some of these patches faded in the centre, and only a narrow red line persisted, enclosing a slightly pigmented space. The child looked out of health, but was quite well under treatment by cod-liver oil in July of the same year.

Lichen marginatus is, as a rule, a well-defined form of eruption, which once seen can usually be easily recognised on a future occasion; yet here even the primary papule may in its further course be so far masked as to render the diagnosis obscure. It commences by the appearance of minute red, commonly rose-red, spots, scarcely larger than a pin's-head in size, and occupying a situation on the back between the scapulæ, or on the chest over the sternum. As in their earliest stage there is not much itchiness, if any, it is not till they have largely increased in number and have extended over a wider area that their presence is remarked. The papules at this period are smooth and little elevated above the surface, but they now rapidly encroach on the skin round, either by the individual spot enlarging or by the development of fresh ones in close proximity, till a size equalling that of a split pea is attained. The patches so formed are slightly scaly, and in the rarer variety are uniformly tinted rose-colour, which ultimately fades into a pale fawn; or more frequently the centre of the patch assumes a fawn or brownish yellow hue, while the margin, which continues to spread circumferentially, persists as a narrow rose or crimson red line, which may in favourable examples be seen to be made up of minute papules linearly arranged. The circle is not always complete, and a horse-shoe or crescent may be seen enclosing a space of somewhat pigmented skin. Circles may in course of time touch, and, becoming obliterated at the point of

contact, gyrate, and irregular figures are produced. There is always some, often considerable, itchiness complained of, when in this manner large tracts of surface may be affected. The skin generally is greasy, and in some cases, certainly not in all, seborrhœa capitis co-exists; but the ailment is not a mere increase of the secretion of the sebaceous glands, with more or less folliculitis;[1] nor can it be regarded as an eczema follicularum,[2] whatever that may be held to imply. Hillairet recognised its true nature, and named its lichen circiné. Yet the disease is superficial, and seldom associated with any evident disturbance of health. Though primarily it by preference affects the central portions of the anterior and dorsal surfaces of the trunk, it in course of time extends downwards over the abdomen, and makes its appearance also on the limbs. The parts of the body which are covered with clothes are those almost exclusively involved. The amount of desquamation varies, but, though sometimes distinct enough to constitute a rather prominent feature, is far oftener scanty, and is never considerable.

The peculiar appearances assumed, the regular spreading by circles, and the branny desquamation, have been thought to point to a parasitic origin, and, indeed, it is often mistaken for ringworm of the body or tinea versicolor. Most careful examination has hitherto failed to establish the presence of any parasitic elements. It should be added that the disease seems more common in males than females, and in adults than children; that it is specially liable to recur; exhibits in some cases a seasonal type; and seems little if at all influenced by internal treatment, though often easily cured by external medication. Wearing flannel next the skin seems occasionally a cause, especially when the garments are thick and warm[3] particularly if those affected sweat freely and are neglectful as to ablutions.

The following case was watched for some time, and is chiefly

[1] Liveing, *Handbook of Skin Diseases*, Fifth Edition, 1887, p. 225.
[2] Unna, *Monatshefte für praktische Dermatologie*, No. 14, 1888.
[3] Dr. Payne, *St. Thomas's Hospital Reports*, vol. xiii., 1883.

remarkable for the protracted duration and regular recurrence of the disease during many years.

34. J. F., sixty-six, private watchman. More than twenty years ago he says he first noticed a small red spot appear on the chest, near the sternum, which increased in size till it became as large as a half-crown piece. After lasting six months it faded and disappeared. Since then the spot or spots have returned twice a year regularly—in March and September. Latterly they have become much more numerous. There were, when seen in September, many circular patches of a dull ham-red colour at their margins, and enclosing a paler centre. The margin was distinctly defined, and somewhat elevated above the surface. The patches were seated over the sternum and near the scapulæ, and were more closely set on the back. He was a healthy, strong, and well-built man, with a somewhat oily skin. There was very little scaliness on the patches, but an examination of those which could be obtained revealed no parasitic elements. He was seen several times with the same eruption at intervals. It always disappeared most quickly when treated with Lassar's paste.

Attention to the characters delineated will enable these two forms of lichen to be recognised. Lichen marginatus, viewed as a whole, exhibits the arrangement of a triangle—the base being at the shoulders, the apex near the lower dorsal vertebræ. It can scarcely be mistaken for tinea versicolor, and the examination of the scales affords at once a certain test. The sole treatment which is required consists in the local application of Lassar's paste, for which see under eczema.

If there may exist a doubt whether lichen circumscriptus and lichen marginatus are not but varieties of the same disease, there can be none as to the marked line which separates *lichen planus* from those just named. Described almost simultaneously by Hebra under the designation of lichen ruber, and by Sir Erasmus Wilson under that of lichen planus, the morbid condition referred to by both is one well worth careful study.

While Hebra was attracted by the *colour*, Wilson's attention was specially drawn to the *shape* of the papules, and thus both names are representative; but of the two the more constant feature is the shining terminal facet which the flat-topped papules exhibit, and therefore the better. It is true that Kaposi speaks of an acuminate as well as a plane lichen ruber, but this, in Britain at least, is seen merely as an occasional variant among the papules of lichen planus. There does not exist a plate representing it, except the original one in Hebra's Atlas, taken when his acquaintance with the disease was comparatively recent. There is indeed little doubt that lichen ruber acuminatus must now be considered as merged in the disease described as pityriasis rubra pilaris, and Hans von Hebra has indicated his assent to this view.[1] The last-named condition is one allied more closely to psoriasis than to lichen.

Lichen planus occurs under three different phases, not altogether strictly separable, except in extreme examples. These are the chronic, the acute, and the warty forms. The first is the more common of the three, and may be taken as the typical lichen planus, as in it the characters peculiar to the disease are specially well marked, and not exaggerated.[2]

Chronic lichen planus commences usually on the limbs, and particularly on the legs or flexor aspect of the fore arms, but it may be encountered also early on the back of the neck; and there is no region of the body, except perhaps the face, where it may not be seen. I think the inner side of the knee is the most frequent site. There is some doubt whether itchiness *precedes* the eruption of the papules or not; if it does not, it soon *follows* their appearance,—at least in most cases. There are two forms which the eruption assumes, one consecutive on the other,—papules and patches.

(1) *Papules.*—These may be called angular or polygonal,

[1] *Brit. Journ. of Dermatology*, March 1890.

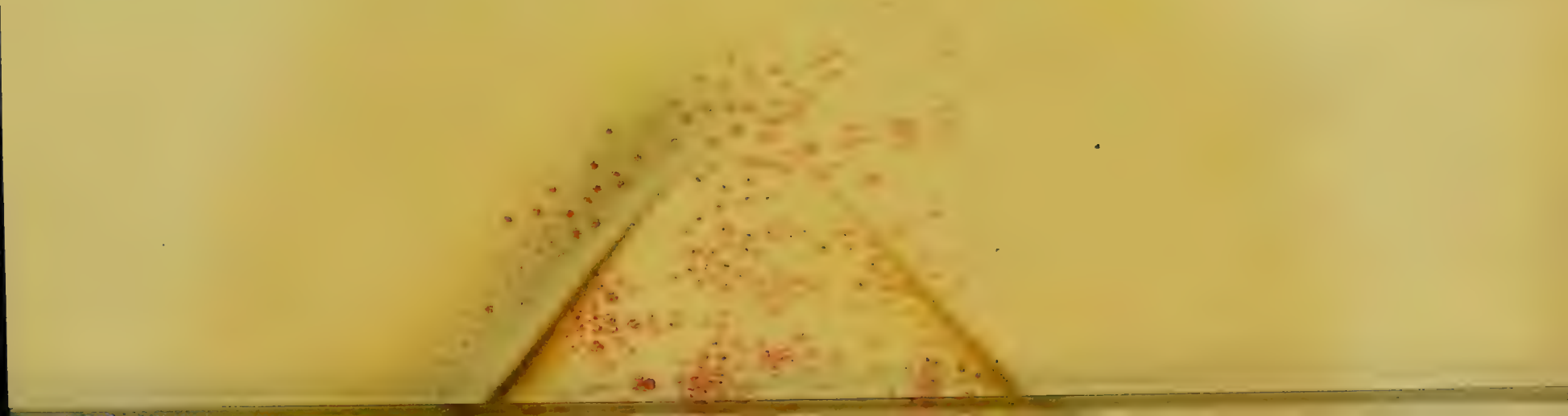
[2] In this section I have derived much valuable assistance from an excellent thesis on lichen planus by Fernand Lavergne. Paris, 1883.

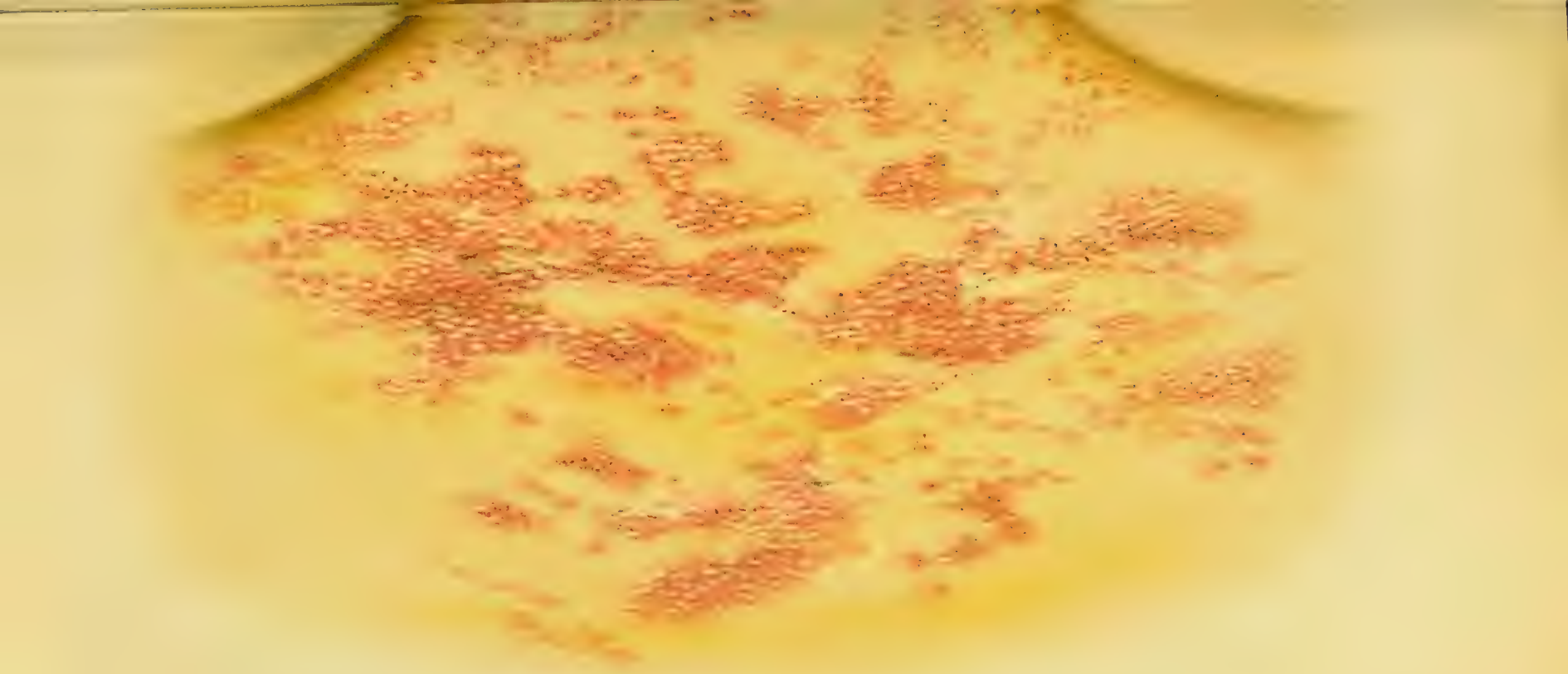
since they are seldom round, often have small "keloid-like" processes running from the angles,[1] and vary in size at their first appearance from a minute point to a hemp-seed. Each papule rises abruptly from the surface, and presents a flattened apex, which has a wax-like glance, which peculiarity is best seen when the papule is looked at obliquely. It bears no scale, but in the centre of some may be seen a minute pit or depression.

The papules are isolated or arranged linearly. In colour they vary from a tint little different from that of the skin to a deep crimson or dark purplish red, which does not wholly fade on pressure. The papules themselves are dry, and the skin feels rough when the hand is passed over a part occupied by them. Such are the features exhibited by the freshly evolved papule. Hebra taught that, once formed, it grew no larger, but this rule is too absolute. On the backs of the hands we find the increment of individual papules to reach sometimes that of a pea, but elsewhere the growth, though noticeable, is much less. They increase in number, however, by the production of new papules near the old, the arrangement being a linear in preference to a circular or crescentic one; and as they thus crowd one on another—the second form assumed by the eruption—the *patch* is produced. Not all the papules, however, thus aggregate themselves into patches; these are only developed here and there. The arrangement of these sometimes closely follows the distribution of a cutaneous nerve. The intervening skin is either normal, or bears more or less scattered papules. In the near neighbourhood of a patch isolated papules are invariably to be found by careful searching, and this constitutes an important factor in the diagnosis.

(2) *Patches.*—The patches produced by the continual crowding together of fresh papules are irregular in shape. In colour they may resemble pink coral, or may even be a deep brownish purple when of old standing, and particularly when situated on the lower limbs. The surface of the patch is rough, and

[1] Finch Noyes, *Australian Med. Journ.*, June 1890.





CHRONIC LICHEN PLANUS.

resembles shagreen leather, the closely set papules not having entirely lost their individuality. In parts furrows cross the patch if large, and when pinched up it feels distinctly thickened. The isolated papules do not desquamate unless in the rare acuminate form, but the patches are covered with thin, whitish, and bran-like scales, removable for the time by oil packing.

Not only do the papules and patches occur on any part of the general surface of the body except the face, but the mucous membranes of the mouth, fauces, and tongue may be similarly affected. Only here the form assumed is that of lines or spots of a whitish colour. It was the opinion of Sir Erasmus Wilson that the occurrence of these patches on the gastric and intestinal mucous membranes might explain the digestive troubles and the marasmus which reached such fatal proportions in Hebra's earlier cases, and which at times appears, though in a milder form, in examples of lichen planus in Britain. So far, however, no constant constitutional symptoms have been found associated with lichen planus, and the disease may last months or years without any evident deterioration of health. There is commonly some complaint of itchiness, frequently this is severe or even intense, yet in many cases there are no traces of scratching. Itching is often most prominent where there is pressure from the clothes.

It extends slowly in the chronic form. Having reached certain proportions, it may remain unchanged or fresh spots and patches may appear at intervals, or it may spontaneously undergo resolution. Pigmentation persists for a long time after the involution of papules or patches—a yellowish or brown staining of the skin, which slowly fades; and this whether the disease disappears spontaneously, as it may in some cases, or is removed by treatment. When the papules or patches have sunk to the level of the skin, and this staining has replaced them, the disease may be regarded as practically cured.

35. *Lichen ruber planus.*—Mrs. G., aged forty, stout and fair. No family. Came in end of April 1881 to see me. A year previously a scaly patch came out on her hip, and since then

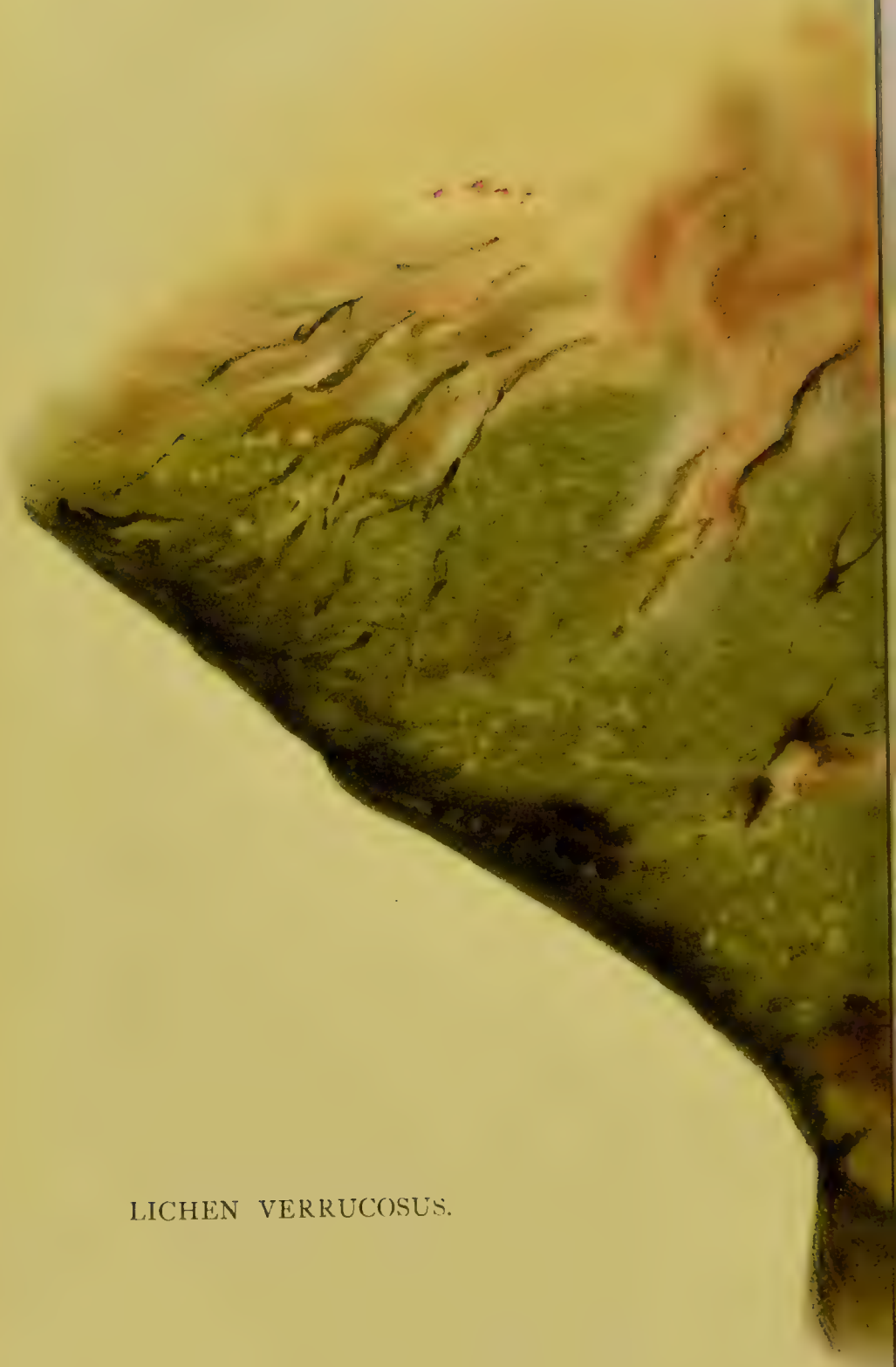
several have shown themselves on her leg. One of these is on the thigh, another on the leg, and a third over the ankle. These have never been moist or itchy. On their surface they are greyish in colour, with a red margin, and bear tolerably thick scales. Though they present much the aspect of psoriasis, there are none in the characteristic psoriasis situations under the patella or on the elbow. General health excellent. She was directed to apply an ointment of oleum rusci ʒi. in vaseline ʒi to the spots. Six weeks after she wrote to tell me that fresh spots had come out on her arms, body, and legs, and I had an opportunity of seeing these a fortnight later. The waxy dull red papules of lichen planus were now pretty extensively scattered over the body, and tended to run into patches more or less thickened. These were, as is so often the case, especially well marked on the thighs. In each axilla was a thickened patch covered with thin white scales. There were some also on the flexor aspect of the arms and on the feet. On the tongue and inside of the lips were milky white spots and patches, suggesting syphilis; but there were no enlarged glands or any other symptoms of specific disease. No doubt these were papules modified by the locality. On one wrist the papules had reached the size of a split pea. In June of the same year she was taking $\frac{1}{12}$ grain of arsenious acid daily, yet papules still appeared afresh. She came again to see me in July. The papules on the wrist have become flatter and slightly scaly. When the trunk was examined, all round the back, beneath the scapulæ, were papules and patches of lichen ruber exquisitely developed. The eruption extended round the body like a girdle, ascending between the mammæ like an inverted triangle. The colour of the papules and patches was a dull crimson red, shot or suffused with a violet or purplish hue. Some patches bore thin flakes of epidermis. The axillæ were occupied by uniformly dull red patches, consisting of closely set papules and presenting a somewhat velvety surface. At the margin of these patches were isolated papules. On the centre of each palm was

a dry patch of eruption where the epidermis had peeled off, and round this were horny papules, having a glassy smooth surface, but, probably from the density of the horny layer, being of the same colour as the skin round. The patch in the centre had commenced by the formation of papules, which in time became so thickly set as to break up the cuticle *en masse*. The patch had neither the defined edge of a syphilide nor the ragged fissured appearance of eczema palmaris. The same condition existed on the soles. The white patches on the tongue still persisted, but caused no pain. There were none on the throat, and no enlarged glands. Health good. Treatment of various kinds was carried out and the disease disappeared in time, but it was impossible to say if this was in consequence of any particular drug or application.

Lichen planus verrucosus.—The warty form. This constitutes a peculiar variety of the chronic form, which merits separate description. Attention has been specially directed to it by French authors. It localises itself more particularly on the lower limbs, as on the front of the legs or on the inner side of the knee, and adjacent part of the thigh. The patches are of various sizes and shapes. The thickening and induration of the skin is much greater than in the simple chronic form, and the patch may, in extreme instances, be elevated considerably above the surface, as in case 36. The surface may be like plush, or be rough and horny, and not unlike the grey lichens on an old tree. There are always more or less greyish and pretty firmly adherent scales. Sometimes lichen pilaris accompanies this form. Itching is usually severe and may be intense. The duration is always a protracted one, and treatment is often less beneficial than in other forms. It may develop from the simple chronic form, but there seems a something more needed to produce it.

36. *Lichen planus verrucosus.*—On the 11th April 1880 Dr. Keiller asked me to see M. B., aged seventy-eight. She was a stout woman, who had enjoyed excellent health, though now in reduced circumstances. She had for some time indulged too

freely in stimulants. The early history of the eruption with regard to which I was consulted was indistinct, but apparently it had first manifested itself three or four years previously, and had steadily become worse. What represent the very earliest appearances are, she says, to be seen now on the backs of the hands. These consist of dull, reddish-brown, flattened papules and tubercles, varying somewhat in size, and having a smooth, glossy surface. These are pretty thickly disposed on the backs of the hands, and more sparingly on the arms, and also on the legs. Besides these, there are numerous patches of thickened warty-like growth, much resembling in coarseness shagreen leather. The largest of these patches occurs on the inner side of the left thigh, extending from the knee halfway up the thigh. The extreme margin of this patch is dull crimson red, but its centre is ashen grey and very rough, with some greenish crusting on its surface, reminding one of lichens growing on a piece of rough sandstone. It looks like coarse plush, and when pinched up opens out in the same way. Here and there deep fissures run through it. It is raised nearly a quarter of an inch above the surrounding skin. Similar thickened and isolated patches extend diagonally up the front of the thigh, and are found on the buttock, also down the front of both legs, and on the dorsum of the foot. The long diameters of all these patches are vertical. The eruption is not symmetrical as regards the thickened warty-like patches. Between the patches are seen the same dull red papules as on the backs of the hands. The eruption itches intensely, and is much torn and scratched, but not unlikely pediculi are present also. She was directed to use an ointment containing liquor carbonis detergens, and her landlady, whom I found out afterwards not to be reliable, having hinted at a possible syphilitic taint acquired a quarter of a century before, but which was subsequently disproved, she was also prescribed a mixture containing iodide of potassium. On the 18th of July I asked Dr. L. D. Bulkley of New York to see her with me, and he declared it to be the most aggravated example of lichen



LICHEN VERRUCOSUS.

ruber planus he had seen. The papules on the backs of the hands have now diminished in number. On the arms are seen some thickened scaly patches, plaques, also small areas of pigmentation, due to pre-existing papules and patches which have been absorbed, and also some leucodermic spots, the final stage of retrogression. Dr. Bulkley ascribed the enormous development of the warty patches on the legs to venous stagnation, aided by the tendency to papillary hypertrophy, not uncommonly met with in some old people. He suggested, in addition to frictions and washing with Hebra's spiritus saponatus kalinus, which had been used for a time, the application of an ointment of chloral camphor ʒi. in ℥i. of simple ointment, and internally, as an oxidising agent, ten-grain doses of chlorate of potass, followed half an hour after by ten drops of dilute nitric acid. This treatment was pretty steadily persevered in till the 23rd September 1880, when a great improvement was found to have taken place. The flat papules on the hands and arms were no longer visible, though some of the scaly and infiltrated patches were still recognisable. The leucodermic and pigmented spots had also gone. The large warty, thickened patch on the inside of the left thigh was much less elevated, being scarcely raised a line above the surrounding skin. The skin could now be easily pinched up, and felt thin and pliant. There was much less itching, her health and spirits were improved. The same local treatment was continued, but in place of the chlorate of potass and nitric acid, she was ordered $\frac{1}{16}$ grain of arsenious acid in pill thrice a day.

On December 13th 1880, the patch on the thigh was noted nearly as thin as the neighbouring skin. It had assumed a brownish tint, with islets of healthy skin shining through; elsewhere the eruption had disappeared. When seen a year after, in 1881, she was well as far as any skin disease was concerned, but her memory had failed, and she was confined to bed, and seemed to be breaking up.

In lichen ruber obtusus described by Unna, and of which

one instance has come under my notice, the papules are larger than a pin's-head, are conical or hemispherical, polished and devoid of scales, resembling wax somewhat in their translucency, with a little depression at their summit, and varying in hue from a bluish to a brownish-red. The itching is not intense.

Under the name of *lichen ruber moniliformis*, Kaposi[1] describes an unique variety. The patient was a Galician, who had suffered from the disease for fifteen years. The papules were ranged in lines, longitudinal in direction, were fairly symmetrical, and affected chiefly the throat and neck and the flexor aspects of the joints. The size of the papules was so much larger than usual, that the ridges produced by them resembled a string of coral beads or nodules of keloid. The surface of these cords was smooth and shining, and not scaly, and tender to pressure.

Besides these, there were the ordinary papules of lichen planus and pigmentary macules, the result of their involution. Sections showed a dense infiltration of cells and nuclei, in the subpapillary layer of the corium, without a trace of organisation, or of formation of connective tissue, thus disproving any connection with keloid. He improved considerably under hypodermic injections of arseniate of soda.

Acute lichen planus.—Occasionally lichen planus, instead of advancing slowly and with periods of intermission and temporary cessation from further progress, develops with rapidity, and invades in a comparatively short time the entire surface of the body, except the face. The papules present the same individual features, except that their colour is a more decided red. The patches are numerous and spread over a large area, and the scaling is greater. The itching is also well marked, and the pigmentation after the disappearance of the eruption is quite decided.

37. *Acute lichen planus.*—A. H., aged thirty-six. Fair and slightly built man, who pursues a sedentary occupation. He has an excellent appetite, but comes of a dyspeptic family, and

[1] *Vierteljahresschrift für Dermatologie und Syphilis*, 1886.

ACUTE LICH

ANUS.

suffers at times from slow digestion. His indigestion seems rather connected with the amount than the quality of the food, since he suffers most when from being hungry he eats rather freely. For the last six months his bowels have been costive, always requiring the use of laxatives. He attributes this to his having neglected to have them relieved at the usual time, from the necessity of hurrying to catch the train when living during the autumn in the country and travelling to town to business. Two months ago a rash, which itches much more, however, at night than during the day, appeared on his body. This has never been on the hands, face, neck, or feet, but occupies the trunk and limbs. The eruption consisted of dull crimson-red papules of a squarish shape, and very little elevated above the skin. Viewed by a side light, their tops had a wax-like glance. Many were so closely set as to form almost continuous sheets of eruption, but at the margins of these patches the individual papules were quite discrete. They faded nearly entirely on pressure, and that they itched was proved by marks of scratching and excoriations. The papular character was well marked on the chest and abdomen; the eruption was very fairly symmetrical. The inguinal glands were a little enlarged, the cervical not. He complained of not sleeping well. He sleeps fairly till three A.M., then lies awake till six, and again doses off a little. It should be noted that the papules on the trunk were more pointed, if anything, than those on the limbs, and they were less numerous below the knee than elsewhere. He was ordered $\frac{1}{16}$ gr. of arsenious acid thrice a day in pill, tar baths containing a little oleum rusci and liquor carbonis detergens, with twenty drops of tincture of gelsemin as a sedative at night. In a fortnight the dose of arsenic was increased to $\frac{1}{12}$ gr. thrice a day. A month afterwards the papules were somewhat brownish. The papules on the outer side of the arm have in most parts become so completely blended that their individuality is lost. A fourth dose of $\frac{1}{12}$ grain of arsenic was given daily. In three weeks more the eruption had faded very much, and at the end of the third month

of treatment the eruption was quite gone on the arms, while on the rest of the body there only remained brownish staining, which bore some resemblance to tinea versicolor when met with in a dark complexioned person, but without the scales. On the inner sides of the thighs there was still some roughness and thickening of the skin. The dose of arsenic was slowly lessened. He complained now of much tenderness of the soles of the feet, so that walking was painful. This subsided by degrees. For a long time after the eruption had quite gone he had some conjunctivitis, and tendency to lachrymation on slight provocation, which made reading at night, and even by daylight, difficult and uncomfortable. By degrees the action of the bowels became again quite regular, and his indigestion also disappeared, and he was quite well at the end of a year after the first appearance of the skin disease. Some years later he had a slight recurrence limited to the lower limbs, which yielded to arsenic, as on the previous occasion.

When we come to consider the causation of lichen planus, there is very little yet ascertained regarding it. Observers are agreed that it is much more common in the higher than in the lower ranks of life. Of thirty-five cases seen by me four only were in hospital patients. Thus a something in better-class life must contribute to originate it. Some of those affected with it have been subjected to much worry; others are neurotic. There is no constant disorder of the digestive organs or functions associated with it. Complaint of sleeplessness is sometimes made; this is a nervous symptom, and not solely arising from the presence of itching.

It may occur at nearly all ages, though Pye Smith[1] says it does not seem to have been met with in children. This is certainly the experience of observers in this country, yet Kaposi has seen some few instances in children. Nor are the results so formidable as Hebra believed they were; at most the disease is obstinate, and from the itching which accompanies it annoying.

[1] *Guy's Hospital Reports*, 1881.

The pathology of the disease cannot be regarded as at all settled. It certainly is not necessarily associated with disorders of the hair follicles, since we have seen that it is met with on parts like the palms and mucous surfaces where these are absent. The persistent dryness of the eruption is a peculiar feature, and the warty development is also remarkable.

A papule removed from the back of the hand of a man aged thirty-four, after hardening in Müller's fluid, was examined by Dr. Byrom Bramwell and myself, and presented the following appearances:—

The cells composing the horny layer were much larger than natural, and irregularly polygonal in shape, and the layer as a whole was thus much thicker than usual. The rete cells were normal in appearance, and all the characteristics of the various strata were well defined. The interpapillary cones were lengthened in some parts, and the papillæ increased in size. There was a scanty deposit of leucocytes in the dilated meshwork of the corium. The blood-vessels of the papillary layer were dilated; the deeper strata of the corium were normal.

Thus the appearances much more closely resembled those which Robinson[1] gives of lichen ruber than of lichen planus, though the clinical features of the case were those of lichen planus as he describes it. There was particularly little evidence of inflammation, while there was of corneous hypertrophy—a view which corresponds with that adopted by Auspitz, who regards lichen ruber and planus as hypertrophies of the horny layer primarily, any inflammatory or hyperæmic symptoms being secondary, and due to pressure. The investigations of Philippson and Török would seem, however, to show that there is at the commencement an inflammation of the papillary body, that this is for long the only symptom, and that the epithelium participates but passively.[2]

Much more important, and on which we possess much more

[1] *Manual of Dermatology*, p. 406. 1885.
[2] *Monatshefte für prakt. Derm. Bd.* VIII. No. 9, 1889.

certain knowledge, is the question of diagnosis. Mr. Hutchinson has called it a first cousin to psoriasis, and it does in its acute and diffused forms bear considerable resemblance to psoriasis; but the spot which denotes the earliest manifestation of psoriasis soon extends and becomes scaly, much more so than lichen planus ever does. Itching is a much more constant symptom in lichen planus than in psoriasis. The latter, too, commences and remains confined for some time to the elbows or knees in the large majority of cases. The papular form of eczema may resemble lichen planus to a superficial observer, but the shape of the papules is different; there is more and more constant itchiness, and other forms of lesion are usually present. It is syphilis which does at times present, in one of its cutaneous manifestations, a tolerably close imitation of lichen planus. The small papular syphilide may be mistaken for lichen planus, but there is not the umbilication nor the same degree of pruritus, while there is nearly always some polymorphism and other general and constitutional symptoms. The syphilitic imitation of lichen tends to remain discrete, and not to form patches, while the papule itself has a less glistening apex, is perhaps less uniform in shape, and is not so flat. Pigmentation as a sequence of involution is common to both. Still the diagnosis is not always easy or certain, and the following case illustrates this. Was it a case of recurrence of a syphilide, or was it lichen planus? It failed to be cured by arsenic, yet yielded to the Edinburgh mixtures of perchloride of mercury and iodide of potassium.

38. C. T., aged fifty, a man of active habits, but of an extremely nervous and excitable disposition, in whose family there have been cases of insanity. He admits having had a chancre and subsequent rash eight years ago, but positively states he has had no relations with women for more than a year. The eruption for which he consulted me had already existed for some months, and he had been treated with arsenic for a considerable time without effect. On the outer aspect of the legs,

on the nates, on the back of the arms and fore arms, there is universal erythematous redness, which bears on its surface some degree of scaliness, but presents no infiltration, or but very little. On the inner side of the legs the erythematous patches are more discrete, areas of unaffected skin intervening. On the back and abdomen the eruption consists of bright crimson red and brownish red flattened glancing papules, each bearing on its summit a minute white scale. The face, hands, and feet are free. The inguinal glands are rather enlarged, the cervical are not. No cicatrix of chancre. Itching rather troublesome at night. The eruption was first noticed on the inside of the knees. His general health was good. He walked and rode much, though in riding he felt some inconvenience from the eruption. As so much arsenic had already been taken, I put him on a mixture containing—Hyd. perch. gr. i.; potass iodid. ʒss.; aq. ad ʒii., of which a teaspoonful was to be taken twice a day. He was instructed to wash his mouth carefully with a solution of chlorate of potass, to attend strictly to the bowels, and was dieted. When seen a few days after, he complained much of itching at night. The eruption had become browner, and the scales were even less marked. He was directed to sponge himself with a lotion containing carbolic acid and spirit of camphor at bedtime. This relieved the irritation and enabled him to sleep. Six weeks after, the treatment having been continued, all the papules were found to be gone: their places and the erythematous redness were now represented by dusky pigmentary stains. After this, treatment was less regularly pursued, and it was noted that four months later there still remained some pigmentation mapping out the seat of the previous eruption.

The treatment of lichen planus is in some cases highly satisfactory, and fails more or less completely in others. The localised form is much more rebellious than the generalised, a circumstance which I shall have reason to direct attention to under eczema. The acute cases yield as a rule easily, the chronic and the warty forms much less so.

Constitutional and local measures are both of value. Of the former, arsenic takes the first rank, and in some instances is alone curative. But to do good it must be given in full doses, and persevered with for a long time. I prefer the arsenious acid in pill, as M'Kesson and Robbin's or Schieffelin's coated pills; $\frac{1}{50}$ of a grain thrice a day, after meals, is the best to commence with, increased by an additional $\frac{1}{50}$ every week till six pills are taken; then pills of $\frac{1}{20}$ of a grain may be substituted should the medicine agree, and in some cases the dose may be raised to $\frac{1}{12}$ gr. thrice a day. Where gastric or intestinal symptoms accrue, Kobner's plan by subcutaneous injection is less likely to induce such symptoms, but necessitates a daily visit to the patient. Mr. Hutchinson relates a case in a man aged forty-nine, where arsenic wholly disagreed, caused greatly increased irritation, and was disused. A cure speedily resulted after a quarter of a grain of tartarised antimony and twelve drops of nepenthe every four hours, was substituted. This was continued for a month.

Locally, baths of sulphide of potassium, followed by vaseline inunction, have given much relief when the itching prevented sleep; and the same may be said of chloral camphor, pure or in ointment, to the more localised patches. Unna has reported some cases cured by the external use of corrosive sublimate in ointment, which is diligently rubbed into the skin:—

℞. Ung. zinci oxid. . . .	500·0
Acid carbolic, ol. olivæ, aa. .	20·0
Cretæ preparatæ . . .	10·0
Hyd. perchlorid. . . .	0·5

In the limited patches of chronic lichen planus the continuous application of Ihle's resorcin paste (see eczema) causes exfoliation of the epidermis and aids the disappearance of the eruption. The menthol soap mentioned under pruritus might relieve the itching, or a lotion compounded as follows, as suggested by Messrs. Duncan, Flockhart, and Co.

℞. Menthol.	grs.	10-30.
Sp. vini rect. . . .		ʒi.
Equaloid Quillaiæ . .		℥ 80.
Aquam distillatam, ad .		ʒii.

——M.

This may be gently applied to the itchy parts several times a day.

Lichen has on the whole fared ill as regards illustrations in the Atlases. Lichen marginatus is very well represented in *Wilson's Portraits,* Plate A D ; lichen pilaris and lichen circumscriptus in *Tilbury Fox's Atlas,* Plate XI.; and lichen ruber planus in Plate XIII. This latter exhibits but one phase of the disease. I have attempted to fill up the blank in the illustrations to be found under this section.

CHAPTER XIV.

PUSTULAR DISEASES.

Though it is true that pustules are, for the most part, a further stage of eruptions of a different character, "and therefore do not strictly deserve the name of primary symptoms," yet, as these pre-existing conditions frequently escape notice till the presence of pus is unmistakable, we are constrained to speak of pustular diseases of the skin, and this term enables us easily to group together some morbid states, which are otherwise rather difficult to reduce to a more definite category. In treating of these, however, some conditions in which pustules occur are necessarily to be considered as out of court. Such are the pustular forms of true eczema, the entire group of syphilitic pustular affections, and the pustules of acne vulgaris and acne rosacea. The purulent stages, too, of well-defined diseases are excluded, as of varicella or zoster. Yet, besides those mentioned, and probably some others which may occur as illustrations, there are several states rightly looked on as pustular.

Now, one of these is that known as *furunculus* or *boil*, and the study of this will help us to understand better some others. Nearly every schoolboy has at one time or another had a boil on the back of the neck, so that most persons are familiar with the condition.

The first point noticed is frequently pain in the affected portion of skin, a feeling of tension even before the part becomes red. To the finger passed over this there is a perception of infiltration, as if a small lump had formed beneath the skin.

This increases in size, while sympathetic irritation of the tissues around is set up, giving rise to pain and heat. The external swelling now becomes conical, and acquires a bright red colour. Pain is intensified, and presents a piercing and throbbing character, which may be varied by a distressing sensation of tightness and weight, the surface itself being exquisitely tender. It is probable that at this time the sloughing process is advancing through the dense structures of the corium; for soon afterwards the apex of the prominence turns yellow owing to the presence of pus underneath, while the sensitiveness to contact diminishes. The pustule increases slightly, ruptures, and allows some sanious pus to escape. At the same time, a narrow opening is disclosed leading straight through the cutis to a greenish yellow slough. This slowly separates, and eventually is extruded through the aperture, which looks much too small for it. It resembles a small shreddy wad of dead tissue, swollen with the products of inflammation.

When this has been expelled, the pain soon ceases, and the discharge rapidly diminishes, and, when the aperture has closed, there merely remains a small brownish or pinkish spot.

The acuteness of the pain is proportional to the density of the part affected, or to the abundant nerve supply. Thus a boil within the meatus of the ear is accompanied by much suffering, since the bony or cartilaginous walls oppose resistance to the effusion of lymph and to the hyperæmia. One on the face is also often very painful owing to the free nervous supply.

That small variety called a *stye*, met with in the eyelids, deserves a moment's notice. It involves a Meibomian gland, and is often long of attaining maturity. Several styes, as several boils, often succeed one another. This may be due to an auto-inoculation from the pus discharged into the conjunctiva, or in some instances to the solid œdema occluding a second follicle.

What is known as the *blind boil* constitutes another variety. It is flatter and more diffuse. It commences as a small pimple, surrounded by a red and extremely tender areola. The pimple

either slowly runs into subcutaneous suppuration, or a vesicle results, which on rupturing discharges some shreddy grumous pus. But this form may also abort and disappear by absorption. The pain is of a throbbing character, and is increased by any cause which accelerates the cutaneous circulation, as when the part is dependent, or if a diffusible stimulant is administered. Ordinarily the constitutional symptoms as regards feverishness are slight or absent.

The *bullous form* is particularly prone to form on the hands and finger-tips of domestic servants. The blebs increase in size rapidly, and from the toughness of the epidermis do not readily burst. These blebs sometimes creep on at one edge, while they dry up at the other, and the quondam roof peels off, leaving a red and tender surface. The fingers are swollen, and throb, and, at least near the bleb, feel hot to touch.

Allied to the common boil, and best considered in connection with it, is the eruption known as *ecthyma*. The pustules are rounded or flattened, and are surrounded by a wide and usually bright red areola. Though yellowish at first, they may assume a dark tint owing to the escape of blood. The areola fades, and the skin wrinkles, and the purulent contents of the eruption dry up into a somewhat bulky crust, which separates rather slowly, leaving a red stain or some pigmentation. The scab, which may be acuminate or flattened, does not conceal an ulcer, merely a superficial erosion of the skin, hence there is no permanent scar left, and this constitutes an important element in diagnosis. The lesions are essentially discrete, commonly symmetrical in a rough way, and may be seated anywhere,—on the buttocks, the extremities generally, and the outer side of the thighs in particular; the shoulders and back are, however, the most frequent situations.

A considerable number of pustules may be present, or they may appear in successive crops, provided the efficient cause is still unremoved. The skin in ecthyma is dull and lifeless, often sallow or anæmic, while the epidermis is not duly shed, and

thus imparts a dry harsh aspect to the surface. There is, however, a form of ecthyma seen in anæmic or strumous children, or in those lowered by some severe ailment; a pustular eruption which occasions punched out ulcers, resembling in some degree the scrofulous sore, but grouped. This has been figured by Neumann in Tafel XXI. of his Atlas.

In ecthyma the causes are invariably those which induce debility, and which lead to impoverishment of the blood. Hence we meet with this form particularly in ill-tended, ill-fed infants, or in persons out of work, tramps, or the inhabitants of workhouses. It seems doubtful whether these alone would produce it, unless another factor were added, viz. scratching. But under these or like circumstances such is not awanting, as various insects are at hand to foster this, or mere uncleanliness or rough flannel will suffice to set up irritation and occasion scratching. Dubreuilh is of opinion that ecthyma is due to the same pyogenic organisms as sycosis, but more deeply implanted.[1]

In boils, again, we have debility of another kind. Speaking generally, the system becomes too suddenly charged with effete material which the emunctories are incapable of getting rid of, either absolutely or from their condition at the particular time. This will be best understood by a few illustrations.

Thus the so-called hydropathic treatment often results in an eruption of boils. In the earlier days of the system, indeed, this was regarded as proof that the complaint for which the regimen had been undergone was being brought to the outside. Now, when a modified system has been adopted, boils are less frequently occasioned. In hydropathy there is usually a more simple diet, a deprivation of stimulants, or at least a diminution in their use by those who habitually or too freely indulge in them. Copious draughts of water, and direct stimulation of the skin by the bathing, kneading, and packing,—all these augment metamorphosis, and cause increased secretion from the kidneys and cutaneous surface.

[1] *Annales de Dermatologie et de Syphiligraphie*, Avril 1890.

Again, a well recognised cause of boils is found in the regimen pursued by those training for boat-racing or as pugilists. The more out of condition those of the better classes are before going into training, and the harder they train, or, expressed otherwise, the more sudden the change, the greater the liability to boils. We have here a rapid alteration in the condition of the blood and tissues, due both to the variation in dietary and the increased metamorphosis of tissue from exercise.

Mere change in diet, more especially if the alteration be from a poor or limited one to a richer, which contains a free or comparatively free allowance of animal food, may induce a crop of boils. This is particularly seen in the case of servants coming to town from the country for their first place. In them the hands are the parts oftenest affected, and these with the large purulent bullæ mentioned under blind boils; constant or frequent immersion in water, and friction, may tend to localise them there, while the greater heat of their apartments, and the deprivation of fresh air, sun, and outdoor exercise, which the duties of a domestic servant in town demand, all co-operate.

Under such circumstances the boils do not at once appear, —often not till after several months. The system resists the injurious influences for a time, then gives way. Even slighter causes may occasion boils. Some alteration of the time of meals may originate them. A lady in middle life came to me complaining of constantly recurring boils. She lived under good hygienic conditions, and I could find at first no evident reason. It then came out that, living with an uncle who insisted on dining at four, she fasted from breakfast time at nine till then, whereas she had previously dined at one. This change had lasted some months before the boils began. A restoration of the dinner hour to its former period at mid-day was followed by an entire cessation of the boils.

Conditions of debility, as over-lactation, or during convalescence from eruptive fevers, favour the production of boils. The more prolonged the febrile state, the more frequent are the

subsequent boils. Thus it is more particularly after unusually prolonged attacks of typhoid fever, or when these occur in those previously "run down," that boils appear. They are most common, too, in late convalescence.

Boils are common in the subjects of diabetes; yet conversely —though this is somewhat doubtful—Prout and others have said that sugar is sometimes temporarily present in the urine of those affected with boils. The emanations from defective drains constitute another cause, and the evolution of boils is often favoured by the use of so-called blood-purifiers, in the composition of which iodide of potassium occupies a prominent place.

Given the tendency, the situation is often determined by some local irritation, as in boat-racers on the buttocks; from the friction of the edge of the collar or a rough coat, they may form on the nape of the neck. In some, contact with cadaveric poisons, as in making post-mortem examinations, access seems to be obtained at a hair follicle, and the back of the hand or fore arm is therefore the more frequent seat in such cases.

A medical friend, who was subject to boils on the neck, mentioned to me that a comedo first formed, and then the spot so occupied became painful, finally developing into a boil. When such a comedo was squeezed, a plug of sebum escaped, and a coiled up strong hair still attached to the papilla. This in some cases came out loop first, then the point. With the extraction of the hair the pain and tendency to suppuration ceased. Sometimes the growing lanugo hair enters the opening of the sebaceous gland instead of emerging from the follicle, and plugs up the duct, and by its irritation causes inflammation and a boil.

Semmer found in the pus from boils which had appeared in persons who had eaten mouldy saur-kraut, fungi similar to those in the mould, and suggested that the boils might have originated from a migration of the fungus elements into the blood, and their excretion in the pus.

Pasteur also has found in boils an unique parasite, distinct from all others, a microbe formed of little spherical points, connected in pairs. He believes it certain that many boils contain a microscopic aërobic microbe, and that to it are due the local inflammation and the consequent formation of pus.[1]

Bockhart[2] has found the staphylococcus pyogenes in pus from boils, impetigo, and sycosis, and believes this microbe is the efficient cause. It is apparently widely distributed, has been met with under the nails in healthy men, and in the nasal secretion in a common cold.

What has been said as to the causes which induce boils may guide us to a correct view of the treatment to be adopted. Yet when such rational indications have been followed, an immediate result does not invariably ensue, and there are some remedies which have been advised on so far empirical grounds.

Should the attack be apparently due to the slowly imbibed influence of the air of dissecting rooms or of drains, an eliminative plan is both natural and serviceable. Thus a laxative—in some cases combined with a mercurial—should be administered, while the skin is stimulated by baths. The simple warm bath, the vapour, or the Turkish bath, may all prove useful in individual instances. Free exercise in the open air, short of the least fatigue, or, best of all, a change either to the seaside or to some altitude, to our own hills, or the higher air of the mountains on the Continent, will frequently work wonders in a short time. The diet at the same time should be light and varied. Such stimulants are to be ordered as seem indicated, and if a tonic is thought desirable, quinine, with an acid, is usually the best. The various syrups of the hypophosphites are of value, such as the neutral or alkaline ones prepared by Fellows or Duncan and Flockhart—the latter has the advantage of a known percentage of all the ingredients—or the well-known acid syrup prepared after Easton's formula. Of all

[1] *Louis Pasteur: His Life and Labours*, p. 276, 1886.
[2] *Monatshefte für praktische Dermatologie*, No. 10, 1887.

the combinations, one of these has seemed in my experience to effect most good.

The two remedies ordered empirically are yeast and the sulphide of calcium. It is extremely difficult to offer any precise opinion on the value of these. The pustular affections which I have described sometimes as suddenly cease to be reproduced as they appeared at first, and when this occurs during the administration of some drug which has obtained a reputation in such cases, we are apt to credit the cure to it. I cannot assure myself that either of these last-named has any specific effect; and while mentioning them, I cannot indicate the cases suited for their use. Bulkley strongly praises sulphide of calcium in styes, and I have seen examples where no new ones came out while it was being taken, though one after another had formed before. But while styes certainly do come several in succession at times, their eruption often comes as suddenly to an end. Some accidental or intentional change in habits, surroundings, or diet may have taken place, or some subtle variation in weather unrecorded by our meteorologists may have led to the cessation.

In boils in the very early stage abortive treatment may be tried, a smart purgative being at the same time administered. Tincture of iodine may be painted on the hard red spot which marks the commencement, or the following may be applied:—

℞	Tinct. arnicæ . . .	ʒi.
	Acid tannic . . .	ʒss.
	Pulv. acaciæ . . .	ʒss.
		——M.

This is painted over the inflamed surface, and a little beyond it, every fifteen minutes, or as soon as it dries, till a tolerably thick coating covers the part. When the boil has formed it should be protected by placing over it a piece of soft thick plaster perforated in the middle.

The abortive treatment should not be extended to styes, as

these, if so dealt with, are apt to form cysts of the eyelids, which need incision and enucleation for cure. The stye should therefore be merely treated by hot fomentations, and the eye shaded. No poultices should be employed, and the stye, when ripe, should only be gently squeezed.

In ecthyma, besides cleanliness and the removal of all causes which may induce scratching, an improved dietary and the internal administration of nitro-hydrochloric acid in some bitter infusion serve to cure the complaint.

An affection which, though not pustular at its outset, assumes in its course the characters of such eruptions, and may therefore very well be classed with the pustular diseases of the skin, is that known as *impetigo contagiosa*. Though known both to Plumbe and Bateman, it is generally conceded that the merit of first accurately describing it is due to the late Dr. Tilbury Fox. Its existence as a separate form of disease is even now admitted in Vienna; still it is scarcely yet well known on the Continent, judging from a paper by Dr. Zit of Prague, in which he speaks as if it were not familiar to the Hungarian physicians.[1]

It is not definitely settled whether its onset is invariably preceded by some febrile disturbance or not. In general, however, the child—for it mainly attacks these—looks more or less pale, ill, and out of sorts. Small, isolated, flat vesicles make their appearance, in the majority of cases first on the face, sometimes on the top or back of the head. Some continue small, others enlarge into flat blebs, if not ruptured by scratching. A faint areola surrounds the vesicle. The contents are in the early stage clear and transparent, but soon become milky, and then distinctly purulent. As the vesicle matures the slight inflammatory halo fades. The lesions are as a rule isolated, but a considerable patch may be formed by several vesicles encroaching on one another as they enlarge in area.

In course of some days, either because the vesicles have

1 *Archiv für Kinderheilkunde*, Bd. viii., Heft 3, 1887.

ruptured or their contents have dried up, crusts or scabs are produced which are quite characteristic of the disease. It is usually when this stage has been reached that the cases are brought for treatment, and the condition has, on cursory examination, all the appearance of a pustular affection. The scabs vary in size from a split pea to a shilling. The colour is commonly a straw yellow, but often may be brownish, most probably from accretion of dirt; sometimes the crust is dark owing to a little admixture of blood. The crust, too, has a granular or horny-like appearance, and seems as if stuck on to the part. When these are removed a superficial abrasion is seen underneath, from which exudes a gum-like secretion. There is no true ulceration, and no scars remain. When the scabs have become quite dry and fall off, red stains, which only slowly fade, are seen.

The vesicles may come out simultaneously or in succession; but if the latter, fresh ones rarely appear after the first ten days. On the scalp the vesicular stage is rarely encountered; we usually find round isolated and raised crusts, greenish or dark brown, seated on the top and back of the head, and matting the hair together.

As regards its distribution, the face, scalp, hands, and arms indicate the relative frequency in order. It may be found nearly exclusively on the limbs, and the outer aspect of the thighs is the more common situation. Here it may closely resemble ecthyma,[1] but the face is ordinarily, even in such cases, the seat of some lesions. It is especially rare on the trunk. At times it may involve the mucous membrane of the eye and nose.

It is both auto-inoculable and communicable to others, and is thus met with on the hands of those in attendance on children so affected. Scratching, probably by conveying some of the secretion under the nail, propagates the disease from place to place. It does not, however, extend, as tinea tonsurans does,

[1] Stelwagon, *Philadelphia Medical Times*, Sept. 22, 1883.

through a large assemblage of children, as in a school; it spreads merely by contact, or may be conveyed by articles of clothing, especially by children putting on one another's caps. In boys' schools the complaint not infrequently spreads from contact during "mauls" at football. The contagious material enters the skin through some minute fissure or abrasion. It is not an eruption in which there is much if any complaint of itchiness. The average duration is about three weeks, yet in some instances its duration is prolonged to several months, even in spite of treatment of some sort.

It is confined nearly exclusively to children, and to those in particular of the lower orders, most likely because in those it spreads most readily by contagion. Overcrowding is an important factor in its production. Zit found the majority of his cases in families whose house-room was too limited for the members occupying it. When on the head, pediculi are frequently present, yet these alone cannot cause it. The moist or pustular eczema of the back of the scalp, induced by pediculi, is quite different. The neighbouring lymphatic glands are far less often enlarged in impetigo contagiosa. Some observers, among whom Kaposi and Piffard are prominent, attribute it to a fungus which they have found in the crusts. But there are few crusts which, if exposed to the air, are absolutely free from such, and while a fungus has been found, observers are not agreed as to its character. Crocker[1] is of opinion that micrococci, which he found in the vesicles, are the source of contagion. Stelwagon has found them also in the maturing lesions, but does not regard them as peculiar to the disease. There has also been thought to be some connection between impetigo contagiosa and vaccination. The vaccine vesicle does sometimes take on the appearance of the crust of impetigo after maturation, and then apparently acquires a contagious property. The connection, if it does exist, has not been made out. It has also a quasi-epidemic character, and is at times much more prevalent

[1] *Lancet*, 1881, i., p. 82.

than at others. It is more common in London than elsewhere, yet very likely many cases escape notice from the small degree of inconvenience it occasions.

When the course and features described are noted, there can be little difficulty in the diagnosis. In pustular eczema and ecthyma there is much more inflammatory reaction. In the latter the disease occurs chiefly in adults, and the scabs are piled up and dark, and the *primary* pustules are accompanied with pain.

When once the disease has been recognised the treatment is easy. The scabs and crusts are to be softened by poultices or oil packing, and then removed, and to the *surface beneath* a mild ammoniated mercury ointment of five or ten grains to the ounce is applied twice a day, or even more frequently. It is *essential* first to remove all scabs. Should the resulting maculæ cause sufficient disfigurement as to necessitate their rapid disappearance, this can be effected by covering them for some days with pieces of Unna's zinc ichthyol salve muslin. The constitutional state may need the administration of the syrup of the iodide of iron, or Easton's or Fellow's syrup in suitable doses.

Under the name *sycosis* a pustular disease is commonly understood, which affects the hairy regions of the face in the adult male. It is usually limited to the face, but, as in the case related by Mr. Hutchinson[1] it may in rare instances extend all over the body, where there are strong hairs. The distinction between this complaint and a pustular eczema of the same regions is by no means always well marked. Fortunately the line of treatment suitable for both is similar, so that there is no reason to quarrel with the term employed. There are three situations attacked by sycosis, and the appearances vary somewhat in each. The commonest is the centre of the upper lip. A couple of square inches are involved, and the limit of skin implicated is pretty sharply defined. If the moustache is worn, the surface within this is swollen, hot, studded with crusts, and perhaps

[1] *Archives of Surgery*, vol. i., p. 263.

fissured. The inflammation extends into the nostrils, and a somewhat similar condition can be made out inside the nose. On inquiry it can usually be elicited that the man had been from time to time or habitually annoyed with nasal catarrh; as a result of the irritating discharge from which the follicles became inflamed, and the disease gradually crept down over the lip.

If the crusts are softened and removed by poulticing, the mode in which the ailment commences can be seen. Pustules form with great rapidity, each being permeated by a hair. The pre-existing papular stage, if there is one, is very short, since the pustules form so quickly as to seem primary. The skin intervening between the pustules, however, participates, and is swollen and red, and often secretes a gummy glutinous fluid. The disease thus resembles a pustular eczema, and by many is called such. Sometimes the surface exhibits granulations, and parts may then pretty closely resemble a mucous tubercle. The hairs, if pulled out, look swollen, and the inner root-sheath in an œdematous condition comes away. As a rule their extraction is painful. This form of sycosis may be combined with eczema of the other hairy parts of the face, as the cheeks or edges of the eyelids, or more frequently exists alone.

39. M. D., aged sixty, was annoyed a year before he came to me with varicose veins of the leg, and took for some time Clarke's blood mixture, a compound believed to consist largely of iodide of potassium. While he was taking this the affection of his upper lip commenced. It is important to state, however, that his occupation—that of a hotelkeeper—necessitated late hours and little rest at night. He came to me in 1883. The centre of the skin beneath the moustache for a space of two inches was thickened, red, rough, and studded with pustules, through each of which a hair passed. There was some fissured eczema of the orifice of the right nostril. He thought that this began subsequently to the affection of the lip. The lip was shaved, and completely epilated at one sitting under

chloroform, and dressed continuously with an ointment composed of equal parts of lead plaster and vaseline, spread on cotton and bound on.

As he was out of condition, various tonics of iron, quinine, and strychnia were administered, and cod-liver oil prescribed. It was four months before the sycosis was cured. But he continued to shave for a year, and then all signs of the disease having long subsided, he allowed the moustache again to grow. Scarcely had he done so when the pustules commenced to reappear, and he shaved once more for eighteen months. In January 1885 another attempt was made to allow the moustache to grow, but again the pustules appeared. Finally, he gave up business and retired to the country, and when shaving was a third time abandoned, the hairs grew luxuriantly, and no trace of pustules have since shown themselves.

In this case the care or anxiety of town life had much to do with the causation, and particularly with the perpetuation of the complaint. Once relieved from these, and in the free air of the country, the disease ceased.

The second variety of the disease is when the side whiskers are attacked. The start may be made in the central portion of the whisker, or more frequently at the upper part, and then the disease creeps steadily downwards; while both sides are, as a rule, attacked, one cheek is usually more severely affected than the other. There are hard crusts, and these often conceal an ulcer, and so the disease resembles pretty closely a serpiginous lupus. Mr. Hutchinson has drawn attention to this, and Dr. Harries[1] has described it very accurately under the name of "lupoid sycosis." "It begins in adult life as a pustular inflammation of hair follicles, starting near the ears, and travelling downwards over the hairy parts of the face. The pustule bursts, a scab forms and separates, the discharge ceases, but the inflamed base, instead of subsiding, becomes indurated, and remains so for an indefinite time. Adjoining follicles take on

[1] *Lupus*, by Arthur Harries, M.D., and C. M. Campbell, M.D. 1886.

the action with a similar result, until after a time the soil seems to resist further extension, and the lower portion of the face remains healthy. After the complaint has existed for weeks or months, the surface is raised, smooth, and of ivory-like hardness. Painful in the early part of their course, the patches long remain tender, and after their disappearance depressed cicatrices remain."

The following case illustrates this condition.

40. T. S., thirty-six, gamekeeper. Healthy active man, with clear complexion and fair beard. Five years ago the disease commenced on the right cheek, near the ear, and a year since began in same situation on left; the whole side whisker on right side involved. The skin is red, rough, dry and scaly in parts; in parts there are thick crusts. The hair is beginning to become thin. He was directed to shave, and employ the soap treatment of Hebra, followed by ung. vaselini plumbicum: to take cod-liver oil. He returned a couple of months after. The skin was now red, thickened, and resembled lupus exfoliativus closely. This was scraped freely, and he was directed to use the same treatment, but less energetically. In three weeks more the skin had become decidedly softer throughout, and there were now numerous isolated superficial pustules. He was now directed to bathe the cheeks for a few minutes nightly with exceedingly hot water, and use an ointment of sulphur, creasote, and vaseline till the pustules ceased to appear, then keep the part covered with zinc ichthyol salve muslin, which effected a cure.

In the subjoined case the diagnosis of chronic eczema barbæ would be considered by many the correct one, and while inclining to the term sycosis here also, I would not affirm this absolutely.

41. A. M., fifty-three. A stout man, but rather soft, and not so robust as he might be. Has had the complaint for many years, and when it began he was much worried in business. Wears a moderately thick beard, tending to become white. Unless on close inspection there is little visible, but then the

skin on cheeks, under and round chin, is seen to be thickened, reddened, and covered with scales and crusts. Here and there the surface is a little moist from exudation. The hair in side whiskers has become thinned. The centre of upper lip is also affected slightly.

He was directed to shave at night with Unna's over-fatty soap, then to bathe the parts with very hot water, dry them, and apply ung. vaselini plumbicum, spread on cotton; in the morning to bathe the face with tepid gruel; to paint on a lotion consisting of—

℞	Acid pyrogallic . . .	ʒi.
	Spt. vini rect. . . .	℥ii.
	Aq. distil.	℥iv.
		——M.

and to apply a dusting powder of talc and boracic acid. He was also directed to take cod-liver oil. Five weeks afterwards there was still redness, but little pustulation. He was directed to shave with over-fatty ichthyol soap, and to use an ointment of—

Sulphuris precip. . . .	ʒss.
Creasoti	♏xv.
Lanolini	ʒvi.
Ol. sesami	ʒii.

smeared on at night, the bathing with gruel and dusting to be continued in the morning. In a month more he was well, and remained so, though the last time he was seen he still continued to shave.

These cases illustrate different phases of the disease. There are some obstinate forms, which I have met with chiefly in those who had a scanty growth of hair on the cheeks, were anxious, and irritable. In them the disease seemed for a time cured, and then a fresh outburst of pustules, accompanied with severe pain, would occur. No exact reason could be assigned for the

recurrence, and in two cases, both of which I saw at intervals during some years, the relapses still happened when last heard of.

A somewhat similar condition is occasionally met with on the scalp, the advance being likewise a centrifugal one. There is folliculitis and perifolliculitis, evidenced by the eruption of minute pustules seated at a hair follicle. The hairs fall out, leaving a round bald spot of scar-like tissue. The process may extend both circumferentially, and by the formation of new foci.[1] In one case which came under my notice in a girl aged twelve, there were half-a-dozen such spots. Search was made for the trichophyton, but in vain. Quinquand, however, has found micrococci in the pustules, and regards them as pathogenic. She got well when the ointment of sulphur, ammoniated mercury, and thymol, mentioned under tinea tonsurans, was diligently rubbed in daily for some time.

The third form of sycosis is a rare one, and indeed is not admitted as a variety of sycosis at all by Kaposi, who has described and figured it. He calls it *dermatitis capillitii papillaris*. It attacks the back of the neck, and also the scalp. "In it firmly imbedded bunches of hair remain in the sclerosed scalp, which is set with very hard tubercles, and sometimes undermined by pus."[2] Mr. Morrant Baker[3] has related two similar examples, and illustrated them by an excellent chromolithograph. He calls the condition acne keloid. I have met with two examples which in some degree correspond to this; but in both a possible syphilitic origin must be admitted. Kaposi expressly says that the complaint described by him is non-syphilitic.

42. M. T., twenty-eight, had syphilis ten years since, and was then treated for three months with mercurials. A year ago a small tubercle formed on the side of the cheek, among the dark hair of the whisker. This did not ulcerate, but became absorbed, and has left a smooth scar-like surface the size of a

[1] *Brocq, Journ. of Cut. and Genito-Urin. Dis.*, Jan. 1889 and Mar. 1890.
[2] Veill, Ziemssen's *Handbuch*.
[3] *Trans. Pathol. Soc. of Lond.*, 1882.

shilling. Round this some semi-transparent smooth tubercles have formed, each pierced by a hair. They feel hard and are not painful on pressure. They are much like a small pink coral bead cut in half. Several have become aggregated into a cluster. There are some outlying ones, one near the ear, another on the nape of the neck. The hairs which run through them are firmly set, and there is no evidence of pus formation within. I touched each with fuming nitric acid, and directed that the base should be painted after the eschar had fallen with salicylic collodion ʒi. in ℥i. Ten grains of iodide of potassium to be taken thrice a day.

43. A clergyman, aged fifty-eight, came to me complaining of an obstinate pustular eruption affecting the inner half of the right eyebrow. The hairs are thinned, the skin red and thickened, and there were some pustules. The patch itched a little. On removing one or two hairs, no parasitic elements were found. I ordered an ointment, containing 10 grains of salicylic acid, and ʒss. of precipitated sulphur in the ounce. This did no good, and he eventually recovered under the use of a lotion of five grains of corrosive sublimate in ʒii. of water prescribed by another medical man.

The morbid anatomy of sycosis has been worked out by Dr. A. R. Robinson.[1] The inflammatory changes commence in the perifollicular regions, and secondarily, invade the follicle. The disease is, according to him, primarily a perifolliculitis. When the hairs are extracted the inner root-sheath—swollen and dull white—often accompanies the hair. This is frequently mistaken for a parasite, an opinion being prevalent that all cases of sycosis are parasitic. This is not the case; though in some instances it may follow ringworm of the beard.

The cause of sycosis is quite obscure. In the form which attacks the centre of the upper lip, it is often preceded by nasal catarrh. In other instances depressing influences are at work,—

[1] *New York Medical Journal*, August and September 1877, and *Manual of Dermatology.*

worry, anxiety, or overwork of an uncongenial and monotonous type, with absence of fresh air; yet occasionally no such factors are traceable. Brooke holds with Bockhart that the efficient cause is the staphylococcus, and that the disease spreads by contagion or inoculation.[1]

The diagnosis is not usually difficult. The only two conditions with which it can be confounded are syphilis and tinea barbæ, the so-called parasitic sycosis. A pustular syphilide in the primary eruptive period would not be confined to the hairy parts of the face. But in the later stages an ulcerative or gummatous eruption may attack these parts exclusively. The question can usually be put as to the occurrence of primary disease. The crescentic form which the eruption tends to assume, combined with the fungating condition often concurrently present, are characteristic of the syphilide. If there is still doubt, we can try the effect of the application of a mercurial plaster or ointment, and the administration of full doses of iodide of potass. True sycosis will be aggravated by this mode of treatment, while the syphilide will rapidly improve.

Tinea barbæ seldom occurs in those who do not shave, even if exposed to contact with children or adults affected with ringworm. There is one exception to this, however. The disease in a severe form is sometimes communicated to man from cattle, and then may be present in those whose beards are uncut, in an aggravated form. The nodular uneven surface of the skin seen in well-marked cases of tinea barbæ is not met with in sycosis. In tinea barbæ the hairs are loose and easily extracted without pain, in sycosis they are firm, unless when suppuration has advanced. The fungus is usually found by the aid of the microscope in ringworm. In addition to the clinical features, the history aids us. In sycosis, as a rule, the disease occurs in those who do not shave; in tinea barbæ there is often a clear history of the commencement of the disease after being shaved on a particular occasion, as one or several itchy spots, or the

[1] *Brit. Journ. of Dermatology*, December 1889.

individual is engaged in tending cattle, or, more rarely, horses. The diagnosis from eczema is unimportant, as the treatment is similar.

The character of the complaint is obstinacy, and there is a constant danger of relapse after apparent cure. Hence no promise of a speedy cure should be made.

While the general health needs attention, and in particular rest from anxiety should be obtained, if possible, or an entire change prescribed, the only medicine of value is cod-liver oil in full doses. This is undoubtedly useful, but it must be so administered as not to derange the stomach, hence best at bedtime in ginger wine.

Local measures are far more important. The parts affected should be entirely denuded of hair. One object is for the time to reduce the part as nearly as possible to that of a naturally hairless tract. In this way we gain in two directions,—one that remedies can be brought into much closer contact with the skin, the other that the continued leverage exerted by the movements of the strong hairs is avoided.[1] We have the conditions of rest and protection fulfilled.

The hairs may be first cut very short, the part poulticed with cold starch poultices, containing one teaspoonful of boracic acid to the pint, till the crusts are softened and the inflammation subdued. If epilation be resorted to, only those hairs which pierce a pustule are to be extracted. Shaving is then practised daily, preferably at night, and Unna's over-fatty soap and hot water will be found most suitable. After shaving, the skin should be bathed with very hot water for two or three minutes, dried, and the ointment applied, spread on cotton or muslin. Brocq recommends that the part should be sopped, previous to the application of the ointment, with a saturated solution of boracic acid in alcohol, a preparation which he strongly advocates as most valuable in sycosis.[2] In the more acute stages,

[1] Hyde, *Practical Treatise on Diseases of the Skin*, Second Ed., 1888, p. 335.

[2] *Traitement des Maladies de la Peau*, 1890, p. 305.

the unguentum vaselini plumbicum generally suits best. It should be spread thickly and bound closely on. It must not be covered with an impervious material, such as oiled silk, as this converts the application into a poultice, and renders the skin tender and soddened. When there is much infiltration, friction with over-fatty potash soap and subsequent bathing with *very hot* water, may suitably precede the application of the ointment.

When in this way the formation of pustules is lessened, resort may be had to sulphur ointment, to which, in some cases, creasote may be added with advantage.

℞ Sulphuris precip. . . . ʒi.
Creasoti . . . . . ♏x.
Vaselini . . . . . ʒi.

Or the forgotten salve prescribed by Biett and rediscovered by Lassar,

℞ Hyd. sulphureti rubri . . . 1·0
Sulphuris sublimati . . . 24·0
Adipis . . . . . 75·0
Olei Bergamottæ . . . q. suff.

These may be gently but firmly rubbed in twice a day. Should the skin tend to become too dry and scale off, it may be intermitted and cold cream applied.

I have not yet sufficient experience of the plan recommended by Veill, of a pyrogallic lotion, two per cent in alcohol, to decide as to its value.

The difficulty in many cases is to have the remedies continuously applied. This is easy, as a rule, at night; much more difficult in the daytime. Under these circumstances Professor M'Call Anderson recommends Dr. Provan's tragacanth paste.

℞ Tragacanthæ, glycerini, each . ʒss.
Boracis . . . . . ʒss.
Aq. distill. . . . . q. suff.

When merely redness remains, then Unna's zinc ichthyol salve muslin should be applied at night, and the parts dusted with French chalk or Taylor's cimolite in the morning. Occasionally a few isolated pustules appear; such may be treated by touching each with pure carbolic acid or with a five per cent resorcin spirit.

In sycosis of the upper lip painting with a solution of nitrate of silver, 16 grains to the ounce of sweet spirits of nitre, at intervals, diminishes the heat and lessens the swelling. In it the disease can hardly be cured, unless the mucous membrane of the nose be restored to a more healthy state. If there be still discharge from the mucous surface, some salt and boracic acid dissolved in water should be drawn through the nose at night, the following proportions being employed—one teaspoonful of boracic acid and one of common salt in a pint of water at blood heat, or in place of boracic acid a solution of one per cent of ichthyol may be employed.[1]

The nostrils should then be dried with a plug of absorbent cotton, all crusts removed, and the undernoted ointment smeared thinly inside the nose:—

℞ Acid salicylic . . . . gr. x.
Vaselini, zinci carbonatis, each . ʒi.
Cerati galeni, ad . . . ℥i.

while for the sycosis Biett's ointment mentioned a few paragraphs back may be rubbed in at night, and the lip dusted freely with a powder composed of equal parts of boracic acid and talc in fine state of division, in the morning.

In some obstinate cases free scraping with Volkmann's spoon, or scarification followed by douching with hot water, and the application of the zinc ichthyol salve muslin, shortens the cure of the sycosis.

Illustrations of impetigo contagiosa will be found in *Tilbury Fox's Atlas*, Plate XXIV., in *Duhring's Atlas*, Plate Z, and in the *Sydenham Society's*, Plates XX. and XXVIII.

[1] *Monatshefte für praktische Dermatologie*, No. 11, 1888.

There is no good plate of sycosis, except in *Duhring's Atlas*, Plate H.

Dermatitis papillomatosa capillitii; acne keloid,—*Kaposi's Atlas Syphilis der Haut*, Plate LXVI.

Ecthyma.—*Duhring's Atlas*, Plate II.

CHAPTER XV.

ECZEMA.

THERE is no disease of the skin which at all approaches eczema in importance, whether we take into consideration the frequency with which it occurs—probably one-half of all skin diseases may be classed as eczematous—the variety of its anatomical forms, or the brilliant results which so often follow well-devised treatment. Eczema has its analogue in a no less important affection of internal organs, viz. in catarrh of the mucous membranes. Eczema, has, indeed, been called a catarrh of the skin, and this opinion has much in its favour, for we will find that both its pathological anatomy and its clinical features present many parallels with such a disease as bronchitis. It may occur as an independent disease, or as a complication of other cutaneous disorders. Some of the parasitic affections of the integument appear under the cloak of an eczema. We can by artificial means produce a diseased state of the skin which, if not identical with eczema, as some hold, at least very closely simulates it in many particulars. It may be defined as "a superficial inflammation of the skin, in which the exudation of serous and cellular elements is particularly well marked." The view expressed by Unna,[1] that it should be defined as "a chronic parasitic catarrh of the skin, with desquamation, itching, and the disposition to respond to irritation by exudation, and with marked inflammation," cannot, I think, be accepted without reservation, and this seems to be

[1] *Brit. Journ. of Dermatology*, August 1890, p. 243.

the opinion held also by Leloir.[1] It is difficult to understand how a widespread eczema rapidly developed can be due to parasitic agency acting from without, but the part played by micro-organisms in perpetuating the disease when established, in altering its character, or in promoting its extension, is probably an important one. The papillary layer of the skin and the rete mucosum are those which are primarily affected, but the horny layer of the epidermis very soon participates, and if the process lasts long or is severe the deeper parts of the corium become sooner or later involved also. The best way to form a conception of eczema is to review the symptoms which characterise it, some of which are more prominent in one example or at one stage than another, but all unite to complete the clinical features. First we have—

(1) *Itching and its modifications.*—This peculiar perversion of sensation is always met with in eczema. It may, it is true, be slight, scarcely noticeable, or not mentioned till specially inquired after, or it may occur in paroxysms which render life all but unendurable while they last. Locality has something to do with this; on the palms and soles it is moderate. The variety of eczema has also an influence; thus, the papular and vesicular forms usually itch much, the pustular and crusted comparatively little. Burning heat may replace or precede the sensation of itching, and this interchange indicates to some extent the stage or state of the disease. If the eruption is in a state of inflammation, with considerable swelling, or should there be a copious eruption of vesicles or pustules, burning heat is chiefly complained of. This is not a mere matter of interest, but an important indication for treatment, for so long as it continues *soothing remedies* must be persevered in. Itching often precedes any visible signs of disease, and when scratching is indulged in eczema bursts out. It may also continue when the part has nearly or entirely assumed a natural aspect. Itching is aggravated by anything which excites the cutaneous

[1] *Annales de Derm. et de Syph.*, 1890, p. 564.

circulation, as warmth in bed, alcoholic stimulants, and often it is aroused even by undressing. A variety of itching, often encountered in the eczema of elderly people, is formication; this is described as exactly like the crawling of myriads of animals over the skin. It is probably due to the successive irritation of nerve fibrils in the skin. At times patients who suffer from it will scarcely be persuaded that it is not due to insects. Yielding to the temptation to scratch invariably makes the disease worse, and all means which enable the sufferer to refrain tend to relieve, and even in mild cases alone to cure the disease.

The cause of itchiness in eczema is probably not the same in different stages of the morbid process. Thus, in the early stage, tension of the skin, and consequent pressure on the terminal nerve fibrils, evokes it. Then minute fissures in the horny layer are caused partly by the tension, partly from the dryness of the skin, owing to lessened activity of the cutaneous glands from the congestion. The inflamed rete is exposed, and the air, as well as other irritants, gaining access, increase or perpetuate the symptom. Micro-organisms derived from without, setting up putrefactive or fermentative changes in the secretions, play their part in inducing it. In the later stages the persistent dryness of the skin and the fine branny desquamation interfere with exhalation, and keep it up.

(2) *Redness.*—This symptom comes next in frequency; indeed, unless it is present, the disease can scarcely be called eczema. It is due to congestion, and can be nearly obliterated by pressure. In all cases which are not recent more or less yellowish or brownish staining remains, due either to exudation of red corpuscles or some degree of pigmentation. In the erythematous form of eczema there may be little more than redness, some thickening of the skin, and a degree of scaliness throughout.

(3) *Papules, Vesicles, Pustules, or Oozing.*—Eczema was at one time regarded as a typical vesicular disease, before Hebra

had insisted on its multiform character. Eczema always commences in punctiform discrete areas; these may remain long isolated, or may become fused into one uniformly affected surface by the extension of the inflammatory process. The papules of eczema are formed by a circumscribed infiltration of the papillæ, and to some extent of the rete mucosum, with serum and cells. The epidermis is thus rendered tense and smooth over the enlarged papillæ. When the serous exudate is poured out more freely the epidermic cells become swollen, the spaces between them distended, and the horny layer elevated into a vesicle. The pustule may either be a further stage of the vesicle, or is due to excessive exudation of the cellular elements, usually associated with struma, which rapidly take on the fatty degeneration, and become pus. It is more probably due to the invasion of micro-organisms capable of initiating the purulent change, such as the staphylococcus pyogenes or cereus. The transformation is therefore to be regarded as a septic one. We have thus the more plastic, serous, or degenerative cellular form of commencement. Sometimes the vesicles are formed so rapidly and are so closely set that the horny layer is cast off, and a moist oozing or leeting surface is exposed. Close observation of this demonstrates also the mode of beginning in separate points. The serum can be seen to ooze in tiny drops from an infinite number of points, and not from the entire surface.

(4) *Crusts and Scales.*—The exudation of eczema, which has the property of stiffening linen, dries up into crusts if abundant, or, where the pustular element predominates, into scales where scanty, or in the erythematous form. The scaly stage is in some cases that which precedes final cure, that of crusting may not be so; beneath the crusts when removed the inflammatory process may still be active, or the disease may be found entirely cured. Where the sebaceous glands are numerous the crusts resemble dried honey. This is often seen on the scalp after an attack of vesicular or moist eczema. When the eczema has throughout been dry, the erythematous surface sheds its

imperfect epidermis in larger or smaller flakes, keratinisation is imperfect. This latter form embraces many examples of "dandruff."

(5) *Infiltration or Thickening.*—When eczema has lasted for some time on the same portion of the skin, there comes to be felt, on pinching it up between the fingers, a degree of thickening which may be limited to the rete mucosum and papillary layer of the cutis, or may, in long-standing cases, or in certain situations, extend through the entire thickness of the skin, and even involve the subcutaneous tissue, rendering the skin both less pliant and less movable than it should be. The exudation from the vessels fills up the meshes of the tissue, gives rise to œdema, or, becoming partially organised, becomes chronic, and indefinitely prolongs the disease. So long as it remains, the disease, though otherwise apparently gone, will return under slight provocation if treatment is not continued till it is entirely removed. The existence for a long period of thickening as a result of eczema lowers the vitality of the part involved, and probably is the cause of such a part becoming more easily attacked should the causes again come into operation.

(6) *Fissures or Cracks.*—When infiltration has occurred in eczema in a part frequently stretched in flexion, the natural elasticity being lessened by the presence of the exudation while the strain is increased, the skin tears from without inwards, and the hands, if these are the parts affected, become unfitted for work. Cracks result also from flexion of the infiltrated skin, as in the bend of the elbow, or on the palm. Though seen chiefly in connection with chronic eczema in such situations, or sometimes behind the ears where the skin is tender, they are met with in other diseases, as syphilis, and occasionally in psoriasis. Sometimes they are found on the tips of the fingers, and then are nearly the sole evidence of eczema.

Such being the symptoms, from the consideration of which we gather that we have to do with a case of eczema, we must now go over the forms under which it appears.

There are three stages or states under which we encounter eczema.

(1) *Acute Eczema.*—The skin is hot, and burns or tingles, and this is accompanied with redness and swelling, which is most marked where the skin is loose. We may find papules, vesicles, or pustules in this form, merely a rough, dry, scaly condition, or the exudation may be poured out so rapidly, and the vesicles may be so closely aggregated, that the epidermis becomes removed and a raw exuding surface is seen, which weeps freely. Acute eczema may be primary, or a recurrence or fresh development of a case which has been pretty quiescent for some time. It is often difficult to distinguish between an acute eczema and a dermatitis brought on by some external irritant.

(2) *Subacute Eczema* indicates a state of less active inflammation. There is always more or less itching, and the surface, which is reddened, is either moist, scaly, or crusted, or there are numerous papules. The thickening is moderate in amount, but always present. It may easily be lighted up into a more acute form, or pass into the chronic state.

(3) *Chronic Eczema.*—Here we may have various conditions. The disease may be widely spread or limited to a few patches. There is redness and marked thickening, and invariably some degree of itchiness, often very intense, though variable. In this state it may persist indefinitely.

The anatomical character under which eczema appears is the next feature, and this may be simplified by describing four kinds.

(1) *Papular Eczema.*—This may be said to be the primary form of all eczemas, though the disease in many cases so rapidly passes beyond this phase that it is difficult to recognise it. The disease begins in the papillary layer of the corium, the rete being involved soon after. The exudation is chiefly plastic; and hard, red, inflamed, and pointed papules are formed. These are often scattered, or they may be grouped on a reddened base. Much itching usually accompanies them, and thus their summits are torn, and excoriations are produced. There may be merely

papules throughout, or associated with them is more or less erythematous eczema, or some vesicles or pustules.

(2) *Erythematous Eczema.*—Close observation of a case exhibiting this form will convince one that it is always developed from the papular, the skin which intervenes between these conical projections being more or less rapidly infiltrated, and thus the aspect of diffuse redness is occasioned. The skin is always thickened when it is compared with an unaffected piece near it. In consequence of the swelling and inflammation, the horny layer is imperfectly nourished, and there is generally a considerable amount of fine desquamation which separates in flakes. The action of the sebaceous and sweat glands is interfered with, and hence the skin to the observer feels dry and harsh, and to the sufferer himself tight and swollen. The natural pliancy and unctuousness of healthy skin is awanting. The redness may be vivid, purplish, or assume a yellow or tawny hue in old-standing cases. It may for a time disappear, and slight itching or tingling alone remain. The name very accurately defines the condition.

(3) *Vesicular Eczema.*—This used to be regarded as the typical form of eczema, but this stage or form is not really very common. The vesicles easily rupture, and may then dry up into scaly layers, or if the exudation is abundant from the acuteness of the process, thick crusts may clothe the subjacent weeping surface. The vesicles develop from minute points or papules, which appear with heat, swelling, and tension in the part. When the fluid oozes the itching and burning become less, and indeed itchiness is not so marked as in the two first forms.

(4) *Pustular or impetiginous Eczema.*—This may be a further stage of vesicular eczema, the cellular element of the exudation rapidly becoming purulent, due partly to a lower state of vitality in the part or system, or both, principally to the inroads of pyogenic organisms. Very often no pustules, merely thick greenish crusts, are seen. The face in children is a common seat, or the scalp, and then the hairs are matted together by the

crusts. Itchiness is not a prominent feature, though usually present in some degree.

These form the primary lesions in eczema, but the disease is also seen under other conditions, which are further developments of one or other of these.

Eczema madidans or rubrum.—Here the protective layer of the epidermis is shed, the part is red, infiltrated, and thickened, and there is a constant oozing of a thin starch-like fluid from the diseased rete cells. When the exudation is thin and serous it may dry on the surface and form a varnish-like coating, which again may dry up into filmy or flaky scales. This is a chronic form of eczema, and usually results from the primary vesicular one, or from any form to which injudicious irritant treatment has been used.

Eczema squamosum.—This is often a final stage preceding cure, but many of the preceding forms may pass into it. There is continuous exfoliation of epidermis, usually from a reddened surface. It may be merely a persistent, dry, erythematous eczema.

Eczema sclerosum.—A term used to describe a form of eczema met with on the palms and soles. There is hardening and thickening of the integument, either in patches or covering the entire surface. In this there may be little or no desquamation, and at no time moisture, vesicles, or papules, but simply a thickened, dry, and leathery condition of the skin, which is generally, though not always, accompanied with deep burning, and more rarely itching sensations.

Eczema verrucosum is an aggravated and more specially localised degree of the same state as the last. A small portion of eczematous skin is hard and wart-like, and tends to crack.

Eczema circumscriptum is a form of which a few examples have come under my notice. It scarcely coincides entirely with that alluded to under a similar name by Croker.[1] Perhaps the relation of a case in which the symptoms were well marked will convey a more precise conception than any formal description.

[1] *Diseases of the Skin*, p. 128, 1888.

44. R. M., sixty, a business man in easy circumstances. He is tall and spare, with a purplish flush on his cheeks. As to dietary, the only exceptional circumstance is that he is somewhat irregular as to time and amount of lunch. The skin is dry and the subcutaneous fat is diminished. He perspires in summer after exertion, but not as a rule otherwise. Takes a cold bath each morning. On the trunk and extremities are numerous patches of eruption perceptibly elevated, some round, some oblong, all several inches in diameter. These are uniform in character, yet not symmetrical in distribution, have no red margin, are dry, scaly, and well defined. The colour is a pale tawny yellow, suffused with a faint pink. The surface has a rough resemblance to that of an oatmeal cake. They have never been moist, and do not itch. Scales removed and examined showed no parasitic elements. They had quite disappeared under the use of a resorcin paste (Ihle's), with avoidance of washing, when seen a month later, though a degree of itchiness was then complained of.

Besides these, there are certain complications often found in connection with eczema. Such are—

(1) *Ulcers.*—Due occasionally to the retention of discharge under crusts which have been permitted to remain too long. Except on the legs, where there may be a varicose condition of the veins, and consequent defective nutrition of the skin, they are seldom deep, and as a rule leave no scars.

(2) *Small abscesses and boils.*—These are chiefly seen on the heads of young children, or in those whose health is broken down, and are not uncommon as a sequence of eczema anywhere, especially if this has lasted long, and has not been treated with antiseptic remedies.[1]

[1] A learned and distinguished friend, much annoyed by the eruption of small boils after an eczema of the scrotum and inner surface of the thighs, observed, "I can now see the full sarcasm of Horace's lines—

"Pimplea dulcis ; nil sine te mei
Prosunt honores !"

Carminum, lib. i. Od. xxvi.

(3) *Enlargement of the lymphatic glands* in the course of the lymph stream from the part affected. This occurs not solely in strumous persons.

(4) *Pigmentation*, and a separation and deepening of the natural furrows of the integument, are found in severe and long-continued cases, generally when scratching has been much indulged in.

While eczema may be developed on any part of the body, it occurs on some more frequently than on others; and age and other circumstances may determine where it breaks out. In early life the scalp is a favourite situation, and from thence it may spread downwards over the forehead and ears, or even on to the cheeks. This form Unna calls eczema seborrhœicum, and associates it with a perverted action of the coil-glands.[1] Eczema spreads either from the margin by extension, or fresh patches form in succession in different localities. Parts where the integument is thinnest are *par excellence* the seats of eczema, such as the inner surfaces of limbs, the flexor aspect of joints, the front of the neck, the back of the ears, and the eyelids. It generally exhibits a strong tendency to symmetry, appearing, though perhaps not to the same extent, on corresponding parts on opposite sides. Should the disease under our consideration be fully developed, and yet show nothing of this symmetrical character, it is more likely to prove a local one, due to irritation, than a true eczema.

Light-haired persons, with good or florid complexions, are apparently more liable to eczema than those with darker hair and skins. Such persons are probably less resistant to the causes which induce eczema. There are some, however, who may be called peculiarly eczematously disposed, since their skins manifest signs of eczema upon very slight provocation from either external irritants or internal derangements, which in others would produce no, or merely transient, effects. Dr. Fox[2]

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, December 1887.
[2] *Skin Diseases*, p. 174, Third Edition, 1873.

observes, and common experience in many cases confirms his statement, "that the subjects of eczema are often thin, pale, and ill nourished; the amount of their subcutaneous fat has become diminished, or is naturally less than it should be, and they have frequently been subjected to various lowering influences." Yet it is true that in the better classes of society and particularly in females, the skin may be fairly soft and pliant, with no very noticeable aridity. In such, however, the epidermis is usually thin. In many the skin is peculiarly anæmic, and thin, irritable, and dry.

Eczema is usually spoken of, and correctly, as a non-contagious disorder. Yet it tends to spread over parts previously unaffected when the discharge runs down on them, and it may sometimes be communicated to others in the same way. Thus nurses who carry children affected with eczema on the nates, have their arms irritated by the discharge. They scratch these, and evoke an eczema from scratching, much as the *Acarus scabiei* does.

Causes of Eczema.—We may speak of these under two divisions—those predisposing causes which emanate from within, and those exciting ones which operate from without. The predisposing causes may be grouped under three heads.

(1) *A disturbance of the balance between Digestion, Assimilation, and Retrograde Metamorphosis.*—This may originate in various ways, and may find expression in a different manner in each individual. Defective excretion is the commonest form in which this perversion exhibits itself; hence the amount, the character, and periodicity of the alvine evacuation, as well as the condition of the urine and the degree of activity of the skin itself, serve as guides to the solution of the cause at work. Eczemas associated with imperfect indigestion in its widest sense are often spoken of as gouty, but this is too narrow a view, and one which from its indefiniteness may mislead. We can seldom cure eczema by the exhibition of anti-arthritic remedies alone; and when we do succeed, it is not always because we have eliminated the

gouty state, but because we have corrected what was wrong in the nutritive functions. "The ashes or dross, the refuse of incomplete combustion, remaining in the system, constitute the causes of eczema from within, as acids, alkalies, water, colouring matters, etc., represent the external ones."[1] Anæmia and plethora are but other forms of this malassimilation—the former perhaps more common in this connection in adults, the latter in children. Civilisation, while it has added vastly to our comforts, has to a certain degree, or at least in certain directions, lessened the resistance of the tissues. This is well seen by the increased liability to catch cold which one is conscious of when residing in town, as compared with the country, or while on a sea voyage. Clothing diminishes the activity of the sebaceous glands, there being no longer the same necessity for the skin to secrete oil to protect it from sun, and rain, and wind. This drier skin is more liable to eczema. Again, the care we take by means of baths and soap to remove what we term dirt from the surface must make the skin more sensitive, by thinning the horny layer, while we deprive it of its healthy unctuousness. One must take care not to place undue value on the cleansing action of soap. "We know that by far the largest proportion of the human race never come in contact with soap, and no one has as yet proved, or even asserted, that the highly civilised races are healthier or stronger than the savage, ignorant of soap."[2]

There is often a feeling of lassitude, or disinclination for work of any description, complained of by those affected with eczema. This is due to debility, and passes off when the eczema is cured by a suitable regimen, as much as by appropriate external remedies.

But civilisation has had another effect; it has altered materially the articles of dietary which are consumed, and the condition in which these, or some of them, are presented at table. Only one or two points can here be referred to under this head.

[1] Schweninger, *Charité-Annalen*, 1886.
[2] Auspitz, *Die Seife*, Wien, 1867.

The farinaceous articles of food are finer than they used to be, and more delicate. Our wheat is more finely ground, and the flour consists more of the central portion of the grain and less of the husk; hence more of the starch, and less proportionally of the gluten and other nitrogenous matters, with the phosphoric acid and salts. This flour, when habitually used, must act differently in the nutrition of the body than a coarser grained flour, or than "seconds" flour.

Again, our beef is fed artificially to a large extent, and the fibre of the meat is softer and less rich in all the various nutritive elements than grass-fed beef. At Christmas time it is quite possible to recognise the taste of linseed oil in the fat of the prize bullocks when presented as roast beef at table. This fat is less assimilable than that directly elaborated from vegetable matter by the ox.

Most harmful of all, in the sense of predisposing to eczema, is the abuse of tea. This, by retarding tissue change and lessening waste, while it stimulates the intellectual powers, leads to the accumulation of effete matter in the system. This effect is of course most harmful in those who are otherwise ill-fed, in the sense of insufficiency or want of variety; in those confined to close rooms, or who do not take enough exercise in fresh open air; or in the young, in whom tissue metamorphosis is more rapid, and growth makes larger demands on the nutritive supply. Coffee and cocoa are in this direction much less injurious than tea.

(2) *Struma or Scrofula.*—This condition of system is in all, but naturally to a greater degree among the lower orders, a fertile source of eczema. The dyscrasia may not be very evident, or it may be unmistakable. It is not merely a cause of eczema in early life, but is also operative in older people, though in them it runs a greater chance of not being recognised.

(3) We have also eczemas which seem dependent on a neurotic state, or a form of neurasthenia. The deficiency seems to take its rise from the diminution below a healthy level of

that reserve of nerve power which all possess to a greater or less degree. We may sometimes observe this directly; at others we ascertain the condition by exclusion. Various exhausting agencies may lead to this. Anxiety, worry, over-lactation, are only one or two of the causes which lead to it; but, however induced, it lays its subject open to attacks of eczema. When in any of these ways the resistant power of the skin is diminished, the exciting causes of eczema come into play, and set it up.

There is, however, one curious fact in eczema which needs attention, and, if possible, explanation. We meet constantly with cases in which a few local patches of eczema appear, and may continue for some time confined to one part, then, without any apparent alteration in circumstances, the disease assumes much wider proportions. It now develops symmetrically on various parts of the body in succession, till it may invade a large extent of cutaneous surface. This used to be explained by the influence of some toxic agent circulating in the blood which affected the nutrition of similar parts on both sides, as we find that one ham alone is seldom affected, but that both popliteal spaces, or the flexor aspects of both elbows, are eczematous, though not always to the same extent. Krock,[1] however, accounts for these cases on a different theory. He regards them as reflex. The stimulus from the primarily irritated portion of skin is carried back to the spinal cord, and by a process of irritation conveyed along the course of the trophic nerves of the parts, fresh nuclei of disease are started in other, and distant, it may be, but corresponding localities. From these, again, other reflexes may start, and thus the disorder may be propagated more or less extensively. He shows how the path can scarcely be either by the sensitive nerves or by the vasomotor ones.

This theory tends also to explain the origin of many inflammatory processes in internal organs, which are in some way connected with injurious influences acting on the skin, and

[1] *Berliner klinische Wochenschrift*, No. 40, 1885.

favours the belief that there does exist a system of nerves whose special duty is to watch over and control nutritive processes.

The exciting causes of eczema are often direct irritants to the skin from without, of which friction, arsenical dyes, or the mere influence of changes in the weather, may serve as illustrations. When localised patches of eczema are found anywhere, the source of irritation should be sought for, and, if found, eliminated.

We meet with cases in which certain individuals have for years pursued an occupation which involves contact with some irritating or caustic substance, unharmed, and then without any very definite reason are attacked by eczema. Careful investigation will in nearly all such persons reveal that there have been changes at work in themselves or in their environment which have lessened the resistancy of their skins. One cause of this is the constant employment of soap for ablution. A large percentage of the toilet soaps in use are alkaline. Mr. Paul[1] found that out of seventeen varieties analysed "and which represented the products of all the principal manufacturers of high-class toilet soap," only three were neutral and one fairly neutral. When such is the case, having regard to the immense consumption of toilet soap, there is no wonder that eczema is common and increasingly so.

The influence of vaccination in causing an outburst of eczema may possibly be explained through reflex action. It is, however, more of an exciting than a predisposing course, and, curiously enough, it has been recommended as a means of curing an already existing eczema.

The unstable condition of the system during dentition may culminate in eczema, but the eruption of teeth, actual or merely expected, is apt to be alleged as a cause, as a means of getting out of a difficulty.

Eczema is commoner in winter than in summer, and chronic

[1] *Brit. Journ. of Dermatology*, March 1890.

cases often recover in summer to reappear with the approach of colder weather.

The diagnosis of a case of eczema is at times extremely simple, and anon may tax all the skill of the experienced practitioner. Common as it is, other forms of skin disease are more apt to be erroneously dubbed eczema than eczema mistaken for them. Confusion is least apt to occur if we employ both the method of exclusion, and try to make out what the eruption before us is not, and that of comparing the appearances described as characteristic of eczema with it.

One general rule should be observed, that before mentally deciding, certainly before expressing an opinion, all crusts or accumulations should be removed, so that the surface beneath can be seen unencumbered with these secretions.

The multiform character of eczema should also be borne in mind, and so by contrasting the appearances seen on different parts, when these occur on more than one, we may be able to decide positively in a case otherwise obscure. The other multiform eruptions are syphilis, scabies, and erythema multiforme. Lichen, psoriasis, and impetigo contagiosa are the diseases which are most apt to simulate it. The microscope affords an infallible and easy mode of discriminating the parasitic diseases, when these assume features like eczema.

Certain forms of eruption due to external agencies are apt to be mistaken for eczema. As illustrations may be mentioned the dermatitis caused in some by contact with the leaves or stem of the Primula obconica, the Rhus toxicodendron, from the employment of tincture of arnica, or from preparations of or containing arsenic.

All the atlases contain numerous representations of eczema, but the best series is that in Duhring's.

The following plates are specially illustrative of the varieties:—

Eczema papulosum—*Duhring*, X.

Eczema erythematosum of face—*Duhring*, A.

Eczema vesiculosum—*Tilbury Fox,* XV., and *Duhring,* I.
Eczema pustulosum—*Syd. Soc.,* XV., and *Duhring,* Y.
Eczema squamosum of nape of neck—*Duhring,* I.
Eczema rubrum in patches on arm—*Duhring,* GG.
Chronic thickened eczema of face—*Neumann,* XVI.

CHAPTER XVI.

TREATMENT OF ECZEMA.

This might be expressed, perhaps, in happier terms as the management of eczema, since it includes much more than the mere administration of drugs or the application of local remedies. Indeed, in a considerable number of instances, attention to diet and exercise, and to the hygiene of the skin, are of as much, if not greater, consequence. It also embraces those measures deemed advisable to obviate a recurrence—our means of prevention.

As a rule, in starting on its consideration, it should always be borne in mind that while our methods of dealing successfully with eczema have been largely supplemented in recent years, there is not, nor ever can be, any one specific for its cure. This may seem to be at variance with an idea which apparently has taken deep root in the general professional mind, viz.—that arsenic is such. Now it will be shown that while arsenic does exert a certain influence in a few forms of eczema, and under special circumstances, it really is the one remedy which, if one is to be omitted, can be best discarded. It is not probably from its action on the skin directly at all that arsenic proves useful in eczema.

Neither will any single plan for treatment suit all cases which are, to outward seeming, identical as much as any two examples of skin diseases are; nor even the same case at different times and stages.

We should endeavour, before commencing the treatment of

any case of eczema, *to eliminate all sources of irritation.* These are not solely the external ones, such as rough and unsuitable clothing, or, on the other hand, imperfect protection from climatic influences, or from irritants due to occupation, or restraint from scratching and friction, or the avoidance of remedies too stimulating in their nature, which have been used either with or without due medical advice, but also many indirect irritants which act from within, such as drugs taken from an idea of purifying the blood, or food or beverages not adapted to the individual or the circumstances of the case.

Eczema, as we have seen, is commonly the expression of lowered vitality either of the part or system, often of both, and both alike must be placed in the most advantageous position attainable to enable the deficient energy to be restored. The more completely we can put the skin, in whole or in part, as the case may be, *at rest*, the more certainly and speedily will we be able to bring it back again to its normal condition of healthy activity. The applications at our disposal permit this to be done with a precision unattainable a few years since. A second condition which must be satisfied is to prevent local septic infection, which tends to perpetuate the disease or to determine the transformation of the exudation into pus.

An objection often urged, not merely by the uneducated, must be anticipated and correctly explained away. While patients are quite desirous that their eruption should be cured, they are haunted by vague fears that evil consequences may result from its being "driven in." Under these circumstances we should point out that all we wish to do, or can hope to effect, is to aid the natural tendency to recovery, which is arrested by some cause or causes which medical skill can in most instances remove. As Liveing[1] very well observes, "an eruption which at the outset was due to constitutional disturbance, often lasts long after that disturbance has subsided, and then becomes a strictly local affection, to be treated chiefly by local means."

[1] *Handbook on the Diagnosis and Treatment of Skin Diseases*, p. 108.

As long as fresh crops of symmetrically disposed eruption continue to appear, we may be sure that some faulty condition of the system remains, and we must direct especial attention to diet, hygiene, and internal treatment; but when the evolution of fresh spots or patches has ceased, we may with advantage adopt active local means to bring about a cure. There are, however, certain cases in which chronic eczema and asthma seem to alternate, the one condition coming more into prominence as the other recedes. In intensely gouty people too an eczema may act somewhat as a safety-valve, and there are other possible phenomena of substitution, as Brocq very well designates them, which may be present. In such circumstances caution must be exercised as to the suppression of an eczema. This should be done gradually, and eliminative measures at the same time instituted.[1]

Eczema indicates debility, and therefore, in our directions for diet, no lowering system is admissible. Yet we should endeavour so to arrange the elements of food, in amount and quality, as to simplify nutrition, while avoiding any over-taxing of the digestion. In the latter case the imperfect removal of excrementitious matters already existent will be further complicated by the presence of the results of incomplete combustion. As Schweninger expresses it, "one should place the patient, in the first instance, on the most simple dietary, and by degrees render it more and more complicated. In the case of each invalid, it is well to make oneself acquainted with those articles of food which are necessary, or which agree, and those which are injurious. The effect of a mere change of regimen occasionally gives surprising results, as by substituting a solid for a liquid dietary, or by making a separation in the time at which the fluids and the solids which make it up are taken. In a good many cases there is a real advantage in taking very little nourishment at a time, but often. Small meals cause less trouble to the circulation than large. It is frequently advisable

[1] *Brit. Journ. of Dermatology*, February 1889.

to order but a single dish at each meal. This does not necessitate uniformity of alimentation, for the most heterogeneous articles may be eaten on one and the same day, provided one only be partaken of at the same meal, and sufficient interval be permitted to allow of its having left the stomach."[1] The more acute and extensive the attack of eczema is, the more closely should we approximate the food to that applicable to catarrhal processes in general.

Milk, fish, soups of simple character, and farinaceous articles; game, and mutton, as being as a rule more naturally fed, rather than beef. Nor should vegetables be omitted, as some would do; at least cauliflower, brocoli, spinage, peas and beans, when fresh and tender, and potatoes if mashed, are all admissible. Fresh and ripe fruits in their season, and oranges and bananas, are quite innocuous.

The amount of liquid is of much importance, but this must either be taken by itself or between meals, or at least in fractional doses, frequently repeated. In this way we can eliminate from the system the various hurtful products of disintegration, and this is the mode in which many mineral waters act—from quantity and repetition far more than from quality.

Eczema often spontaneously disappears when the invalid is removed from his usual habits and pursuits, and placed under conditions where free oxygenation is attainable. For this purpose the air of mountainous regions, or that of inland districts, is better suited than the more stimulating though equally pure atmosphere of the sea coast, which is loaded with fine particles of salt. A curious difference in this respect is sometimes visible as regards the eastern and western shores of the British Islands. The comparatively warm and moist west wind travelling over the wide Atlantic, comes loaded with fine particles of salt; the colder and drier east wind proceeding from snowy regions and passing over the Continent of Europe, is fairly devoid of salt, and though often exerting a drying effect

[1] *Charité-Annalen*, 1886.

on the skin and rendering the epidermis brittle, yet it does not irritate an erythematous or moist eczema exposed to its influence, as much as the milder though salter west. Sea bathing is seldom to be recommended in the eczematously disposed, never during the persistence of an attack. In children, at all events, I have seen a single sea bath serve to reinduce an eczema which had been cured for some time.

Internal medication.—In the acute stages of eczema, and sometimes in the chronic, those remedies which relieve the skin, and aid the blood to get rid of effete material, are the most valuable. Sometimes the action of the bowels, at others that of the kidneys, needs to be promoted.

When the bowels are at fault and sluggish, we must have recourse to different combinations in particular circumstances. Sulphate of magnesia or soda, or both, combined with sulphuric acid and sulphate of iron, with the addition of a carminative and bitter, is one of the most generally useful of laxatives, acting as a tonic and hæmatinic at the same time. I have also found the German liquorice powder and the fluid extract of cascara sagrada of value, where gentle and continued action is desired to restore the tone of neglected or mismanaged *primæ viæ*. The aperient effect of the compound liquorice powder may be intensified by the addition to each drachm of one grain of powdered capsicum. Where the liver is not secreting bile in due amount two grains of euonymin, one of iridin, and two of the colocynth and henbane pill taken every night, or less often, has a good effect as a biliary stimulant. At the outset of treatment a single dose of calomel or grey powder is sometimes advantageous, but should not be repeated. We must remember that it is not purgation we want, but the regular, rhythmical, periodic evacuation of the bowels. A purge may be a necessary preliminary of this.

Equally advantageous, when the urinary secretion is scanty or loaded, and when the general surface of the skin is inactive, are alkaline diuretics. The acetate of potass, in a combina-

tion which we owe to Dr. Bulkley, suits admirably in such cases.

℞ Potass. acetatis	ʒiv.
Tinct. nucis vom.	ʒii.
Tinct. cinchon. co., ad . . .	℥iv.

One teaspoonful in a large wine-glassful of water three times a day after meals. The cinchona may be replaced by quassia, or the succus scoparii or succus taraxaci in some cases. The nux vomica has, like the tincture of gelseminum, a decided influence in restraining the itchiness.

Small doses of antimonial wine, $\frac{1}{32}$ to $\frac{1}{10}$ of a grain (from eight to fifteen minims), two or three times a day, are occasionally of much value in limiting the spread of acute and extensive eczemas, but the period for the exhibition of antimony is soon passed, and the drug should on no account be continued for more than a few days.

Where there is distinct evidence of gout, then a mixture like the following does good.

℞ Sodæ sulphatis	ʒiii.
Potassii iodidi	grs. x.
Vini antimonialis	ʒss.
Sodæ bicarbonatis	ʒii.
Infusum Cascarillæ ad . . .	℥vi.
	——M.

Sig. One teaspoonful to be taken twice a day in water.

If the gout is less marked though constitutionally present, mild alkaline waters as those of Vichy or Vals, taken widely apart from meals, slowly but surely and safely extinguish it, provided suitable dietetic rules are observed.

In more chronic forms of eczema, when the tongue is coated and the appetite impaired and capricious, I have found the following mixture, given thrice a day after meals, do good :—

℞ Magnesiæ carbonatis, Bismuthi carbonatis, aa. ʒiiss.
Tinct. rhei . . . . . ʒiss-ʒii.
Syrupi zingiberis . . . . . ʒvi.
Sp. chloroform . . . . . ʒii.
Aq. ad . . . . . ʒviii.
——M.

One table-spoonful in water as a dose. In somewhat similar cases Oppenheimer's liquor euonymin et pepsin comp. has relieved the symptoms spoken of, and increased the appetite and general feeling of well-being.

In those persons whose nervous energy has become reduced, the syrups of the hypophosphites of Easton and Fellows are particularly valuable. To be effectual, however, they should be persevered with in moderate doses for lengthened periods, occasional breaks or interruptions in the course being made at intervals.

In the more purely anæmic Blaud's pills, freshly prepared, and to which, following the suggestion of Dr. Andrew Smart, I have often added the $\frac{1}{50}$ of a grain of the arseniate of iron, can be prescribed. The freshness of the pills should be tested by cutting one in half; unless the surface thus revealed shows a dark green colour, the pill is not active. Pills which exhibit a brown hue on section are of no use therapeutically. Another and similar preparation are the ferruginous capsules of Messrs. Robertson & Co., 35 George Street, Edinburgh. These contain the mixture of carbonate of potass and sulphate of iron in a liquid form, inside a gelatine capsule. They claim for these that oxidation does not go on till the capsule is softened and the contents are set free in the stomach, and, in proof of this, some which I have kept under observation have retained unchanged their dark olive green colour.

The mistura ferri composita is another preparation which has done me good service in anæmic persons suffering from the drier forms of eczema. With it I usually combine small doses of the liquor arsenicalis. It is in the dry and scaly forms of eczema

that arsenic is useful, if at all, and I think that it does more as a nervine tonic, and from its action on the cardiac muscle, than in virtue of any special influence which it exerts on the skin. Arsenic does most good in the eczema of young children, and occasionally in the chronic dry forms in adults.

Cod-liver oil is useful not merely in the lymphatic and strumous young who are affected with eczema, but also in the elderly who suffer from eczema which is in part connected with senile atrophic changes, implicating the skin and subcutaneous fatty tissue. It should be given in small or moderate doses once a day, preferably the last thing at night, as then it is least apt to disturb digestion.

There is one recently introduced drug which directly influences the skin through the agency of the sweat glands. Jaborandi, or its alkaloid pilocarpine, employed in suitable cases can restore the pliancy and natural unctuousness of the skin, conditions which are all but completely in abeyance in some forms of erythematous, papular, and scaly eczema. The following case, which was treated successfully by pilocarpine alone, will illustrate this admirably. I have to thank my friend and colleague, Dr. Brakenridge, for his kindness, not only in having the treatment carried out in his wards, but for the full notes which were furnished to me by his resident, Dr. Haldane.

45. J. B., thirty-six, miller, was a healthy man till two years ago, when he had his first attack of eczema, which, however, did not last very long. It returned twelve months ago, and since then he had not been free from it. The eruption when he was admitted into the Royal Infirmary on the 30th January 1885 consisted mainly of papular eczema, mixed in parts with erythematous and scaly patches. The skin of the face was red, dry, rough, and scaly, with papules scattered over its surface. On the neck and behind the ears and on the scalp the skin had been torn by scratching, and the surface was moist and exuding. On the chest the eruption was mainly erythematous and scaly, on the legs and arms more distinctly papular. The palms and soles

and the axillæ were free from eruption, and there was little in the ham or the epigastric region. The skin felt dry, the man scarcely perspired, and the itching was both constant and severe. He was kept in bed, and treated solely with subcutaneous injections of nitrate of pilocarpine, usually twice a day, and varying from $\frac{1}{6}$ to $\frac{1}{3}$ of a grain in each. At first the pilocarpine did not cause sweating all over the body, especially the back did not sweat, but a fresh supply was obtained, and then the perspiration was profuse. Once his temperature suddenly rose to 102·8, and he had a rigor with other feverish symptoms. This was found to be caused by a threatened subcutaneous abscess at the spot where the pilocarpine had been inserted. A tender red spot formed, but disappeared without the formation of pus. The treatment was continued till the 11th of March, when he was discharged quite well. The skin was now quite soft and well lubricated, and the subcutaneous fat increased. The itching had entirely gone, and the man felt and looked in excellent health. Before his admission into the infirmary, sulphur baths, followed by vaseline and various lotions, had been tried unavailingly. The pilocarpine caused some salivation at first, but much less after the skin acted freely, and this was lessened also by careful attention to administer abundance of liquid while he was under the influence of the pilocarpine, without which perspiration ceases.

Local Treatment.—There are two methods of describing the local treatment of eczema, one to go over that applicable to the various forms which it assumes, or, another, to specify the means at our disposal for dealing with eczema, and then to indicate these varieties or stages for which the particular remedy under discussion is adapted. This second plan seems on the whole the more useful.

In general, patches of eczema are too often washed, and the fluids used are not in many cases the most suitable. Many examples of eczema are induced by one or both of two factors, cold drying winds, or the employment of hard water, or of too

much soap and water. An escape from the former of the two may be impracticable, but we might ameliorate the injurious effects of the latter. From the known improvement which takes place in many cases of eczema when rain water or river water is used for washing or bathing in those persons apt to suffer from eczema, it can scarcely be doubted that were soft water available at all times, the occurrence of eczema would be very much less frequent. We can reduce the hardness of water when that depends on lime by boiling, or by the addition of certain substances of a glutinous nature. Thus water boiled with oatmeal, bran, or barley in small amount, and then strained from these, proves soothing to the tender eczematous skin. Still more so, and well suited for cleansing a very tender part, is thin rice milk strained from the rice grains. Another most excellent cleansing and soothing application in eczema is thin starch used hot, and to each pint of which a teaspoonful or less of boracic acid has been added.

The substance called anticalcaire, which has been largely advertised as a means of softening hard water, and as in itself harmless, may be perfectly so when the skin is sound ; but if it consists, as it is reported to do, of lime, alum, and borax, it may not prove quite so to the surfaces affected with eczema.

In all cases too frequent washings are to be avoided, since these macerate the delicate epidermis unprotected by a properly resistant horny layer, and the employment of soap has usually to be interdicted. Sometimes washing of any kind whatever must be entirely discontinued, at least with respect to the diseased parts, till a complete cure has been effected.

Before any treatment is commenced all secondary products, all crusts and scales, must be removed. This may take some time, and their displacement may be accompanied by pain. Yet till this is done, and done effectually, we cannot hope to cope satisfactorily with the disease. Crusts may need saturation for some time in oil, and then when soft can be washed off with soap and warm water. Cold starch poultices—Glenfield

starch suits well—with some boracic acid added, applied and renewed again and again, form one of the very best modes of getting rid of crusts and scales. But the starch poultice must be properly made. Brocq recommends that the starch should be blended thoroughly with precisely the right quantity of tepid water to form a paste. Boiling water is then poured on to the paste, and the mixture left on the fire for about a minute, a teaspoonful of boracic acid is added to each pint, and the whole stirred briskly so as to make it homogeneous. We may also use weak solutions of carbonate of soda, covered with gutta-percha tissue.

Here also we find most advantage from the impermeable indiarubber appliances used to envelop the skin, in eczema of the legs and head especially. These, by retaining the insensible perspiration, act like a poultice, and often more rapidly and efficiently as they soften the scales and crusts from beneath, and thus render their removal an easy matter. Indiarubber skull-caps made of the best thin rubber, and fitting loosely, wide indiarubber gloves, and bands of indiarubber, in eczema of the cheeks and legs, are the chief modes in which this plan can be made serviceable. When these are worn a few days, the part becomes red, moist, and a little swollen, with a smooth surface, but often itching and tender. The indiarubber covering must then be laid aside, and other treatment instituted, else the nutrition of the part becomes lowered. This method can carry the diseased process a certain length on the way to cure, but, this point reached, it seems inoperative to promote further healing, and retards the formation of the horny layer. I have never seen any form of eczema cured by the indiarubber alone.

Having now the surface clean—a procedure necessary in cases where secondary products have accumulated, but not much wanted in the purely papular and erythematous forms—we must select from the various remedial measures at our disposal that which will best suit the case. The appliances we can employ are—

(1) *Powders.*—There are two methods in which finely pulverised substances can be applied to the skin in eczema. These are as simple dusting powders, and as powder bags.

(*a*) *Dusting Powders.*—A number of inert, slightly astringent or antiseptic dusting powders are in use. The simplest of them is powdered starch. It is cheap and readily obtained, yet it has the disadvantage that, being an organic substance, it does not possess the permanency, in the face of secretions which readily putrefy, which some other materials do. It will, however, always hold its place, from being so easily obtained. The following I employ nearly indiscriminately :—French chalk, alone or with an equal part of Shoemaker's oleate of zinc, Taylor's cimolite, and powdered talc. Powdered boracic acid is a valuable antiseptic dusting powder, usually unirritating, and which admits of being combined with any of the foregoing. A combination recommended by Martindale in his *Extra Pharmacopœia* is useful for the same purpose, to obviate putrescence :—

℞ Acid salicylic	3·0
Talci	87·0
Pulveris amyli	10·0

Another good powder has been suggested to me by Mr. Gardner, Chemist, Edinburgh.

℞ Ceresini	1·0
Kaolini	2·5
Pulv. Acid. Boric.	1·0
Zinci oxidi	0·5
	—— M.

These powders are best used tied up in rather open muslin or cambric, and dusted on by striking the bag against the forefinger of the left hand over the part to which it is desired to apply them. They are of most use in subacute forms of eczema, where the secretion is scanty, or in eczema intertrigo in adults or children, or to be applied during the day, some other remedy

being used at night. They are also applicable to acute erythematous eczema in the early stage.

(*b*) *Powder Bags.*—For this method of employing powder we are indebted to the ingenuity of Dr. Unna.[1] It consists in making long narrow bags of thin cambric or muslin, and partially filling them with starch powder, or some other of those mentioned, and then stitching or quilting them across, so as to prevent the contained powder from shifting to one or other end. These bags are then placed between opposing surfaces, as under the mammæ, in the fold of the groin, round the scrotum, and under the penis, in the perinæum, by the sides of the neck, or behind the ears. Every movement of the body or part causes the displacement of some of the included powder, and thus the parts can be kept as it were in an atmosphere of a drying or antiseptic material. Should an extremely absorbent and very drying powder be desiderated, the terra silicea of Raye und Söhne, 22 Sonninstrasse, Hamburg, may be used. This is absolutely pure silicic acid, and dries the skin more than any powder yet discovered.

These powder bags are of much value in cases of eczema of the scrotum and penis, and for use at night. Ointments are incompatible with them, unless as alternatives.

(2) *Lotions.*—These come next to powders, inasmuch as their use is somewhat restricted, and their effect is rather ephemeral. We may speak of—(*a*) Sedative; (*b*) Protective and drying; and (*c*) Stimulant lotions. *All lotions should be made with distilled water.*

(*a*) *Sedative.*—Such lotions may be employed to lessen inflammatory action, and cool the surface in the acute stages of eczema, or to moderate the itching in the later ones. When our object is the former of these, impromptu ones are often the most grateful and efficacious, such as thin warm starch to which boracic acid has been added, or milk strained from rice which has been boiled in it, or barley water, or thin gruel. Weak

[1] *Aerztliches Vereinsblatt für Deutschland*, No. 158, 1885.

alkaline lotions are likewise sedative, as soft water containing a drachm of the bicarbonate of soda to the pint, or a similar amount of borax. For the diminution of itchiness, carbolic acid forms one of our most reliable remedies used as a lotion.

℞ Acid carbolic . . . . . ʒi.
Glycerini puri . . . . . ʒii.
Aquam, ad . . . . . ℥viii.
—— M.

In like manner we may use the liquor carbonis detergens, an alcoholic solution of coal-tar, the proportion being the same.

A valuable sedative lotion in some cases of subacute eczema is the old-fashioned black wash, which is made still better when a little of the mucilage of tragacanth is added to it, and still further diluted with lime water.

℞ Lotionis nigræ, liq. calcis, aa. . . ℥iv.
Mucilaginis tragacanthæ . . ʒi.

This can be usefully supplemented by smearing on one of the zinc salves to be alluded to by and by, when the lotion has dried.

Holding somewhat of a middle place between this and the next class is the following lotion, which I have designated the "oleo-calcareous lotion."

℞ Liq. Calcis,
Olei Sesami, aa. . . . ℥iii.
Cretæ præparatæ,
Zinci oxidi, aa. . . . . ʒiv.
Acidi salicylici . . . . ʒi.
——M.

This can be painted freely on with a moderately stiff brush, once or oftener daily.

(*b*) *Protective and drying lotions.*—These are mainly useful in those forms of eczema where there is little secretion, when the surface is smooth and glistening, in papular eczema, or in

declining moist eczema. One of the best known is calamine lotion.

℞	Calaminæ præparatæ . . .	ʒiv.
	Zinci oxidi	ʒii.
	Glycerini puri	ʒiss.
	Aquam, ad	℥vi.
		—— M.

Instead of glycerine and water the Decoctum Cydonii may be in some cases preferably used as the excipient, the addition of a drachm of boracic acid to each six ounces renders this permanent.

The lotion should be shaken, and poured out into a saucer; it can then be easily painted on with a large camel's hair brush. If there is much secretion this is apt to accumulate under the dry hard crust formed by the lotion and there to decompose or become purulent, but this tendency is lessened or neutralised if ten grains of boracic acid are added to each ounce. Carbolic acid can in like manner be incorporated with it. In some dry scaly forms of eczema the addition of a drachm of precipitated sulphur is of much advantage.

Another drying lotion consists of a solution of nitrate of silver in sweet spirits of nitre; sixteen grains to the ounce is the strength, as a rule, to employ it. It often rapidly checks the serous oozing from limited patches, and carries them a step on the way to cure. Its application should not be too often repeated. It is particularly useful in moist eczema of the head, and in eczema rubrum of the inside of the thighs. The pain which attends its application can be obviated by painting the surface ten minutes previously with a five per cent solution of cocaïne in water.

(*c*) *Stimulant lotions.*—In cases of chronic eczema, when there is much leathery induration, the use of stimulating lotions is sometimes of service. One of these is Hebra's spiritus saponatus kalinus, consisting of two parts of the best soft soap digested

for some time in one of rectified spirit and then filtered. Some aromatic tincture, as the tincture of lavender, may be added to conceal the odour of the soap, or the lotion may be made with eau de Cologne. This is rubbed in, plain or diluted, pretty freely, washed thoroughly off, the surface dried, and the diachylon ointment applied, spread thickly on cotton.

There are now, however, other and more elegant modes of removing the infiltration, and I find myself using the "soap treatment" less and less every day. Still it is of some value in obstinately recurring eczema, when localised. The skin in such cases has taken on a "bad habit," which the soap treatment is well calculated to correct.

In some cases of widely distributed eczema of the trunk and extremities, the final remains of the complaint can often be got rid of by the use of Killian's lotion, sopped on the part with a rag or small sponge.

℞ Acid carbolic . . . . ʒi.
Glycerini puri . . . . ʒiss.
Sp. vini rect. . . . . ℥iv.
Aquam, ad . . . . . ℥viii.
—— M.

For the carbolic acid thymol may be substituted. The effect of this lotion must be watched, since occasionally, instead of removing the last traces of the complaint, it lights up a fresh attack.

A combination of tar and lead is of much value in dry scaly eczema of the scalp, or indeed in many forms of eczema in any region.

℞ Liq. plumbi subacetatis . . . ♏x.
Liq. carbonis detergens . . . ʒi.
Aquam distillatam, ad . . . Oj.
—— M.

This is to be sopped on gently with a sponge twice a day. I

have named it "Hutchinson's lotion," as I learned its composition and value from Mr. Jonathan Hutchinson.[1]

(3) *Ointments.*—These are of much value in eczema, and may be divided in two modes. We may speak of them as having a transitory or a continuous action, or we may class them as—(*a*) Cooling and lubricant; (*b*) Penetrating; (*c*) Continuous; and (*d*) Stimulant. The fatty components of the various ointments must be absolutely fresh, since the products of butyric or other fermentative changes are extremely irritating to the skin.

(*a*) *Cooling and lubricant.*—It was long known, even since Galen's time, that some ointments, if freshly made, and thinly spread on the surface, induced a sensation of coolness, while others gave rise to a sense of increased heat. Unna[2] has explained the reason of this. In all the former class there is combined with the fatty ingredient a quantity of water. The unguentum plumbi subacetatis and cold cream (ceratum Galeni) are familiar examples of cooling salves. He explains the reason of this refrigerating action thus: "Our skins are so constituted as to require lubrication. This is constantly being done by the secretion of the sweat glands, and under certain circumstances by the sebaceous glands also. But the cutaneous lubricant contains water as well as fatty matter, also fatty acids and soaps. The presence of water facilitates evaporation." Thus cooling ointments in a measure resemble sweat. The best cooling salve has the following formula:

℞	Aq. rosarum, ol. amygdal, aa. .	10·0
	Ceræ albæ, cetacei, aa. . . .	1·0

This contains more oil and less water than the cold cream usually sold. It forms an excellent base for various compound ointments. Thus oxide of zinc combined with it in the proportion of one drachm to the ounce, as recommended by Bulkley, is

[1] *Archives of Surgery*, vol. i. p. 164.

[2] *Monatshefte für praktische Dermatologie*, June 1884.

much better suited for application to the skin than that of the Pharmacopœia.

Another most useful soothing ointment in eczema is thus compounded—

℞	Zinci carbonatis . . .	℥i.
	Acidi salicylici . . .	gr. x.
	Vaselini opt.	℥i.
	Cerati Galeni, ad . . .	℥i.
		——M.

Some special uses to which this ointment can be put will be noted in another section.

Lanoline, from its power of taking up water when rubbed up with it in a mortar, might seem fitted for a place under this heading, but the water appears to enter into closer combination with it than in the case of the fats which have a glycerine and not a cholesterine base, and this excludes it from the cooling ointments. It ranks high, however, as a lubricant; care must be taken to prescribe that which bears Liebreich's name, or the lanoline of Jaffe and Darmstädter, as that of some other makers contains too large a proportion of fatty acids, and may be rancid.[1]

Combined as follows according to the suggestion of Mr. Helbing[2] we get an excellent ointment base, to which he has attached the appropriate name of Unguentum lanolini.

℞	Lanolini Anhyd.	65·0
	Paraffini liquidi	30·0
	Ceresini	5·0

Melt together, then beat or knead in

	Aq. distill	30·0

Other soothing ointments in eczema are those containing boracic acid. There are two modes of combining this in salves.

[1] *Deutsche med. Wochensch.*, 12th May 1887.

[2] *Chemist and Druggist*, cf. 27, 1889.

One consists in dusting in the finely powdered acid by degrees, and mixing carefully. The excipient should be melted. Simple ointment or pure fresh lard may be used. Another plan is to mix a drachm of a saturated solution of Barff's boroglyceride in pure glycerine, with an ounce of simple ointment. To some skins glycerine is irritating. Boracic acid ointments are valuable in situations where the secretions are apt to become putrescent.

Now and then individuals are encountered whose skins zinc does not seem to suit. An ointment composed of equal parts of prepared chalk and pure fresh lard, with half a drachm of boracic acid in each ounce, will be found applicable to most of such cases.

(*b*) *Penetrating Ointments.*—These are little used in simple eczema, as the main feature of their employment is that they should be firmly rubbed in. In chronic infiltrated eczema tar may be so applied in some cases. One of the best modes of using it is the following :—

℞ Liq. carbonis detergens . . . ʒi.
Zinci oxidi . . . . ʒi.
Cerati Galeni, ad . . . ʒi.
——M.

The zinc here guards the skin to some extent from the too stimulant action of the tar.

(*c*) *Continuous Ointments.*—Hebra was the first to point out the greatly augmented efficacy of ointments when applied spread on linen or cotton, as compared with the same when merely smeared on. Any ointment may be so applied, but there are some peculiarly suited for this purpose. His diachylon ointment is one of the chief, and this can be most satisfactorily prepared in small quantity by melting and mixing carefully equal parts of lead plaster and the best American vaseline. (To this form of diachylon ointment the name of unguentum vaselini plumbicum has been applied by Kaposi.) A hard, pale, yellow

salve results, which spreads readily on thin cotton torn into strips. These strips, smeared thickly with the ointment, are to be closely approximated to the part, and secured in place by suitable bandages. On no account are they to be covered with any impervious material, as oiled silk.

This ointment is particularly indicated in dry eczemas of the palms, and sometimes to lessen the discharge in cases of moist eczema. Indeed it is an invaluable ointment, but should not be used for the nose, as the oxide becomes converted into a sulphide, and for a time stains the skin. Somewhat similar is the application recommended by Pick of Prague,[1] which should be spread thickly on calico, then narrow strips are to be closely fixed by bandage or otherwise to the parts. Itching at once ceases, but is replaced by a slight burning sensation for a short time. When itching returns the dressing should be renewed, seldom till then; thus three or four days may elapse ere the dressing need be disturbed. Two formulæ are in use.

℞ Emp. saponis liquefact. . .	100·0
Acidi salicylici	5·0
	——M.

Or should a lower percentage and a more adhesive ointment be desired.

℞ Emp. saponis liquefact. . .	80·0
Ol. olivæ opt.	20·0
Acidi salicylici	2·5
	——M.

In my experience, however, the first formula is so stiff that it must be spread by one accustomed to extend plasters, or a small plaster iron must be used; the second is on the other hand rather soft. A good medium plaster can be made when ninety parts of soap plaster, ten of olive oil, and five of salicylic acid are the proportions.

[1] *Verhandl. Deutsch. Derm. Gesellsch.*, 1890.

More elegant, and in some forms as useful, are the salve muslins introduced by Unna, and made by P. Beiersdorf, 82 Oelkers Allèe, Altona. These consist of muslin, the meshes of which are filled with rather consistent salves, and when pieces are cut off and fitted to the skin they maintain it, as it were, in an atmosphere of the particular salve. Zinc ichthyol salve muslin, which may be had either spread on one or both sides of the muslin, is that of which I have most experience, and which I have tested most carefully. It possesses the property of lessening cutaneous hyperæmia in a remarkable degree, as a consequence of the ichthyol which it contains. Ichthyol, or the sulpho-ichthyolate of ammonia, is a dark brown, thick, treacle-like fluid, with a peculiar odour quite *sui generis*. It is to some extent an artificial product, and is derived from the distillation of a bitumen found near Seefeld, in the Tyrol. This bitumen contains the remains of certain fish. By the action of strong sulphuric acid on the distillate, an acid—sulpho-ichthyolic acid—is produced, and this forms salts with ammonia, soda, and potash, which contain ten per cent of sulphur in a soluble form.[1]

To obtain the due action of ichthyol it must be used dilute and applied continuously. The salve muslin containing it is advantageous in dry scaly superficial eczemas, or in erythematous eczema affecting the face. The proportion to be used in ointment is from two per cent to three per cent. Lanoline forms a good, perhaps one of the best, excipients, since ichthyol is soluble in water in any proportion. The list of salve muslins mounts up to fourteen varieties, embracing most of the medicaments available for use in this way.

(*d*) *Stimulant Ointments.*—This includes various salves used to modify the perverted condition of the skin.

Tannin is one of the substances which can be so employed, in the proportion of a drachm to the ounce of cold cream. It acts more as an astringent than a stimulant, and is particularly

[1] *Monatshefte für praktische Dermatologie*, December 1882.

useful in eczema of the meatus, and in some dry forms of eczema of the scalp. Ammoniated mercury comes under this class, and the pharmacopœial ointment, full strength or diluted, may be used. It is occasionally of service in the eczema of children and of the climacteric period in women, but the praise accorded to it by Niemeyer is, I think, not deserved.

Calomel ointment, in the proportion of a drachm to the ounce of simple ointment, is also serviceable in eczema when limited to small patches, as on the hands. All these may be styled alterative as well as stimulant ointments—a phrase, however, often used to please rather than explain.

In some chronic cases Dr. Mackintosh[1] recommends,

℞ Ung. zinci,
Ung. plumbi acetat.,
Ung. hyd. nit. . . . . aa.
——M.

(4) *Pastes.*—Applications resembling ointments in the facility with which they are smeared on, but which become dry and adhere firmly, are called pastes. The best known of these is that devised by Oscar Lassar, and named after him. It consists of—

℞ Acidi salicylici . . .	10 grs.
Vaselini opt. . . .	℥ss.
Zinci oxidi	ʒii.
Pulveris amyli . . .	ʒii.

Misce leniter terenda fiat pasta.

In the case of children boracic acid may replace the salicylic, and should the paste be too consistent the proportion of vaseline may be increased.

This excellent paste is of extensive applicability in eczema. It can be spread on all parts of the body save the palms, soles, and eyelids—those, in fact, where there are no sebaceous glands,

[1] *Practitioner*, July 1889.

and where the lubrication of the skin is entirely effected by the coil or sweat glands. Wherever there are sebaceous glands it can be used, even to the scalp if the hair is shaved off.

It is unsuited for eczema in its weeping stages, but can be used in all those which are on the wane, or are dry and scaly.

The addition of half a grain of perchloride of mercury to each ounce will be found occasionally of value in checking the formation of post-eczematous boils.[1]

A modification of this paste is Ihle's paste—

℞ Resorcini . . . . 10 grs.
Lanolini,
Vaselini,
Zinci oxidi,
Pulv. amyli . . . . aa ʒii.
——M.

This formula is quite satisfactory provided the paste is used freshly prepared, but if kept it is apt to become black, owing to a chemical change in the resorcin. This alteration in colour can be entirely prevented if some salicylic acid is added. Five grains of this can be substituted for five of resorcin, and this will be found to give an admirably working strength. In using the paste it ought to be smeared on very thinly. In a few exceptional cases resorcin causes an erythema, when it must be discontinued. Unna in an experience of over 2000 cases has not met with this more than ten times. Though employing resorcin extensively, only one instance of resorcin idiosyncrasy has occurred in my practice so far.

The basis of both pastes is vaseline and starch, with the addition of oxide of zinc. Besides resorcin and salicylic acid tar, naphthol, and ichthyol can be combined with the paste. Other pastes can be made with glycerine, dextrin, gum acacia, and gum tragacanth, but these have to be freshly dispensed.[2]

[1] Unna, *Monatshefte für praktische Dermatologie*, November 3, 1888.
[2] *Ibid.*, February 1884.

(5) *Glycerine Jelly.*—Valuable as are all the applications already described, it is doubtful if any at all approach in importance the gelatine preparations introduced by Pick,[1] and modified and simplified by Unna.[1] Pick employed a mixture of gelatine and water, over which, when painted on, he applied a thin layer of glycerine to prevent the film of gelatine from peeling off. Unna combined the gelatine and glycerine directly, and added oxide of zinc. In this way the transparency of the gelatine was destroyed, but its pliancy much increased.

The best formula for Unna's glycerine jelly is as follows:—

℞ Gelatinæ	15·0
Zinci oxidi	10·0
Glycerini	30·0
Aquæ	40·0

These ingredients are cautiously melted and combined, and to the mass two per cent of sulpho-ichthyolate of ammonia is added. This is not absolutely necessary, but it increases the efficiency of the jelly in lessening hyperæmia. The jelly is best dispensed in a deep tin, and each time the jelly is used the tin is placed in enough boiling water to thoroughly liquefy the contents, which are then painted on the part with a stiff brush, and covered over with a thin film of absorbent cotton wool. The result is a closely adherent pliant covering, which can be applied to large areas, is readily removed by bathing with warm water, and easily reapplied. Should the jelly become too stiff, a teaspoonful or more of boiling water may be added to it when melted to render it thinner.

There is scarcely any part of the body or any form of eczema to which the jelly is inapplicable. When there is abundant oozing from the surface, this should be lessened by the application of boracic starch poultices for a day or two, or longer, and then the jelly may be used. Under its use leathery induration melts away, and the surface assumes the natural softness of

[1] *Monatshefte für praktische Dermatologie*, February 1883.

health. It is also useful as an adjunct to tar. In cases where it is desired to use tar, a thin coating of this, pure or dissolved in spirit, is painted on, and when dry the part so treated can be covered with a layer of the jelly. In this way the over-stimulating effects sometimes seen when tar is employed may be averted.

Occasionally another form of jelly suits even better:—

℞	Gelatinæ	15·0
	Zinci oxidi	10·0
	Adipis recentis	10·0
	Glycerini puri	65·0

The ingredients should be combined by aid of a water bath, and then two per cent of salicylic acid added. Unless there is lard in the composition, the acid destroys the cohesion of the gelatine. The large proportion of glycerine in this jelly sometimes proves irritating to some skins. When melted and painted on, it must in like manner be covered with a thin layer of absorbent cotton wool, but it cannot like the other be made thinner by the addition of water.

(6) *Mineral Waters.*—There are several spas in Britain which enjoy a reputation for the cure of eczema. Of these the sulphur waters of Strathpeffer and Harrogate are the chief; and that many cases of this disease improve or recover there is undoubted. Besides the waters, we must bear in mind that, as a rule, patients who go there leave their cares and anxieties behind them, are put on a somewhat different regimen, and live a life of ease and enjoyment, while the fine bracing air of the Highland strath or the Yorkshire upland exerts an invigorating and tonic influence. One decided drawback is present in the waters of both places: they issue from the earth at too low a temperature to be available for baths, unless heated artificially, and in so doing some at least of the sulphuretted hydrogen must be driven off. If, therefore, patients are able and willing to undertake a longish journey, the sulpho-alkaline waters of Luchon, which can be obtained of any

temperature as they rise from the soil, are still more valuable. The valley itself is one of the loveliest in Europe, and the life affords an entire change. It is not surprising, therefore, that great and lasting benefit is obtained from a visit to and stay of some weeks at Luchon. It is probable that the "baregene," a fatty material which the sulphur springs of the Pyrenees contain in varying proportions, contributes to their therapeutic efficacy. The effects of these springs are different. At Strathpeffer there is a large amount of sulphuretted hydrogen and a small quantity of alkaline sulphide with almost no chloride of sodium. At Harrogate there is a large quantity of chloride of sodium combined with more alkaline sulphide, but less sulphuretted hydrogen. At Luchon there is much less gas, more alkaline sulphide, and very little if any chloride of sodium. Hence the waters of Luchon are the more sedative, those of Harrogate the more stimulating, while those of Strathpeffer lie intermediate. Irritable cases do best at Luchon, chronic infiltrated ones at Harrogate or Strathpeffer. Ems, too, suits some cases; but there the waters are purely alkaline, and the climate sometimes rather relaxing. Artificial sulphur baths, made by dissolving two ounces of the potassa sulphurata in thirty gallons of water at 98°, are by no means to be despised as substitutes for the natural ones.

In cases of eczema which are associated with anæmia and debility, the waters of Franzenbad in Bohemia are of special value. An excellent account of this little-known spa will be found in the number of *Blackwood's Magazine* for October 1890.

Such are the remedies of most value in our efforts to cope with eczema. Illustrations of their use will be found in the sections devoted to eczema in relation to locality.

There are one or two general rules with respect to the treatment of eczema worth bearing in mind.

In acute eczema only the most soothing remedies are applicable.

So long as a remedy continues to do good, or, in other words, so long as the patches of eczema improve, or do not grow worse, it is wise to persevere.

Remedies of the stimulant class are in all cases to be employed cautiously.

CHAPTER XVII.

ECZEMA AS INFLUENCED BY AGE.

The integument in young children is much more delicate, and more easily influenced by various irritants, than that of adults. The skin itself and its glands are being developed more rapidly at this period than at any other. The horny layer is less resistant as yet, and may be said, at least for the first year of extra-uterine existence, to be still mindful of its previous subaqueous condition, when it grew under the most favourable influences of continual warmth and moisture. According to statistics furnished by Bohn,[1] of 315 cases of eczema between birth and fifteen, 204 occurred during the first five years, and of these seventy in the first year of life. In these he does not include cases of simple intertrigo; but if the exact proportion of cases of eczema in childhood can scarcely be determined, it may be assumed that such are very common.

The characters of the disease do not in the main differ very materially from those which it exhibits in the adult, when the softness and tenderness of the skin in childhood is taken into account. While it does occur more or less extensively distributed over the surface, the face and head are certainly the parts of the body which are most frequently affected. It may commence on the head and extend downwards over the forehead and face, involving the ears at the same time; or it may appear in the first instance on the cheeks, a situation where it is apt to linger long. There are always red rough patches, accompanied

[1] Gerhardt's *Handbuch der Kinderkrankheiten*, Tubingen, 1883.

with more or less papulation, which may remain dry and slightly scaly, or for a time may be moist, and weep. Vesicles are of even shorter duration than in the adult; crusts form readily, and look gummy and yellow; or, if the exudation is small in quantity, there are thin scales. On the head crusts form most readily, on the trunk scales.

In the most perfect form of infantile eczema, the forehead, cheeks, nose, and chin are more or less completely red and excoriated, interrupted here and there with crusts of a greenish or dark brown colour, which cover the face like a mask, from which the child's eyes gleam. On parts the crusts may have been scratched off, and the blood which has oozed forth stains some of those which remain.

Apart from the troublesome itching, the greater number of such infants appear to be in good health and well nourished. The lymphatic glands in the course of the lymph currents are enlarged,[1] and cutaneous abscesses, usually of a low type, are common, more particularly near or on the head.

Itching is always a very marked feature; at times it seems intolerable, the little sufferer being worn out by its persistence. Sleep is disturbed, or scarcely possible, and mechanical measures can hardly restrain from scratching or rubbing in the endeavour to relieve it. When the disease occurs between two opposing folds of skin—eczema intertrigo—itching is less prominent, but this is replaced by pain.

In older children the auricle and the fold behind the ears, and particularly the scalp, are more often attacked than the face. On the head extensive coherent moist crusts are found, which mat the hairs, and from which a sero-purulent or fœtid secretion exudes. Pediculi are commonly present in such cases.

If the crusts are removed by poultices, the scalp appears red, excoriated, and pouring out a serous discharge. Pustules may form round the crusts, especially in recurrent outbreaks.

Eczema may also attack the trunk or extremities in children

[1] Bohn, *Jahrbuch für Kinderheilkunde*, 1885.

as well as the head. The forms in which it occurs on these are chiefly the papular and vesicular. The ham and bend of the elbow, the loins, abdomen, and thighs, are the principal seats.

Acute diseases, as pneumonia, may cause the eruption to fade, and, again, the appearance of each tooth during dentition is apt to induce a fresh outburst, which abates or ceases when dentition is completed.

The diagnosis of eczema in childhood is not in general difficult. Infantile syphilis can scarcely be confounded with it. The absence of itching, the general aspect, the snuffles, and the hereditary history, which can sometimes at least be elicited, will usually enable a correct decision to be made. In scabies, again, the fact that other members of the family are similarly affected, the position of the lesions on the buttocks, inner flexure of wrists, and the multiform appearance, will aid in the discrimination. Dermatitis herpetiformis is rare in children. The vesicles are large, flat, and chambered, and are found principally on the limbs and nates. Itching is a prominent feature. The absence of any contagious element will aid in distinguishing from scabies. Ringworm of the body in children sometimes shows itself as a single, dry, red, slightly scaly patch of uniform appearance all over. Its margin is better defined than a patch of eczema would be; and if seen before any treatment has been made use of, the parasitic elements are easily found. Lichen circumscriptus, too, has a certain resemblance to eczema, but the patches tend to heal in their centres, while those of eczema do not, and the itchiness is less marked.

While frequently it is very difficult, if not impossible, to discover anything at fault in the general health of the subjects of infantile eczema, we do encounter two special types, which may be roughly classed as the scrofulous and the over-fed. Neither of these elements may in some instances be quite definitely distinguishable, yet the treatment which will prove successful is in the main essentially distinct.

The scrofulous type is seen most frequently in large towns,

and there among children which have been either exclusively, or very nearly so, brought up at the breast, or if not so, the dietary has as a rule been ill chosen. The milky part may have been deficient, and no lime water added to the contents of the nursing bottle, while the farinaceous has been in excess, or too early commenced; or there has been in addition the use of tea, or the premature employment of other articles quite unsuited for the tender age of the child.

If nursed solely, the dietary of the mother will be found to have been injudicious or insufficient, while her nursing powers have been naturally defective, or rendered so by too rapid child-bearing or over lactation. There is another factor which acts strongly in the case of town children,—the impossibility of taking the child sufficiently often into the open air, while the absence of sunlight in the house, and its deficiency at many seasons of the year outside, also tend to produce anæmia in the mother and child, and a weak etiolated state of their tissues generally. Hence we find that more or less pallor is present in the majority of cases of eczema of this type in children. Curiously enough rickets and eczema do not bear the same close relationship; the diathesis is different, and the skin does not suffer in its nutrition to anything like the same extent as do the bones and mucous surfaces. Eczema in the scrofulous form presents the usual proclivity to the ready transformation of the exudation into pus; hence crusting arises readily.

The type of eczema associated with over-feeding is more often met with in the country, where the mothers are strong and their supply of milk rich and plentiful. It is also seen in town in children who have been brought up on the bottle, and who, naturally strong, have been permitted to take too abundant a supply. In them the eczema presents a more decidedly inflammatory aspect,—there is more tendency to free serous oozing than to distinct pus formation. Itching is even more marked than in the anæmic and scrofulous, and the extent of surface involved is often considerable. It is in such cases that

the disease assumes the universal form. The influence of heredity in such is more probable, and if it exists at all, it is in these we will find examples of what is termed by French authors the dartrous diathesis.

Constipation is found in a certain number of cases, and when present it interferes with that rapid tissue interchange and renewal which is so marked a feature of childhood.

A question of some importance in the causation of eczema in children, and indeed of eczema in general, is the influence of oatmeal as an article of dietary. That this has a tendency to induce skin eruption, from a so-called "heating" effect, is a widely spread popular belief, and as all popular prejudices have had some original starting-point which has been finally obscured or lost sight of, this is worth inquiring into. The heating effect of oatmeal is in one sense a real one. When oat-cakes, or imperfectly boiled oatmeal-brose, or hastily prepared porridge are partaken of, the result in not a few persons is the production of that symptom known as heartburn, with some concomitant acidity. That this in itself can initiate an eczema I very much doubt, but that it can light up an imperfectly cured eczema, or perpetuate one already existing, as any other cause of dyspepsia may, is quite probable. I have never seen an eczema which I could say was caused by oatmeal alone, and the exclusion of a highly nutritious food, which possesses the property of maintaining the regular action of the bowels better than any other, from the dietary of children, would be more than a pity—would be a serious evil—unless on indisputable evidence. Thoroughly well-boiled porridge may, I believe, be used in moderation with perfect safety in eczema, in all cases except those where a distinct idiosyncrasy has declared itself, and then, of course, it should, like any other substance proved to be injurious in the case under consideration, be discontinued.

One must bear in mind that instinct as a guiding principle has largely ceased in man. It does in women, brought up healthily and of robust frame, suggest the mode provided by

nature for rearing the infant at birth, and a mother would, I believe, untold, apply her child to the breast. But civilisation has obliterated or blunted this feeling, and in a great measure has destroyed the capability of producing milk. This is seen in the comparative rarity of breast-fed babies. Indeed, as stated in a late article in an American journal, the mammary gland in the female is no longer to be regarded from its functional but merely from its æsthetic side—indispensable to a due conception of beauty, but useless as a milk producer—the cow or goat, but more particularly the inventor and vendor of various infants' foods, having taken its place. But a survival of the instinctive element in women is seen in the mother being incapable of refusing her child anything it may ask of which she herself partakes. Education has as yet failed to impart in many cases the necessary instruction which instinct no longer supplies. A modern mother, in too many cases, is in a state of blissful ignorance as to how her infant should be fed, and the counsels she receives from trained and untrained nurses, and the tribe of old women always so ready with advice on any subject, are not often calculated to improve matters. The newspapers are crammed with advertisements of wonderful feeding stuffs, many, no doubt, excellent in their places, but few capable of replacing healthy woman's milk. But bold assertion does much, and the sale of such substitutes must be immense.

The influence of an unsuitable dietary in the production and perpetuation of eczema in children was well illustrated by a case brought to the Royal Infirmary on September 4, 1886. A girl, aged three, and tall for her age, was brought on account of eczema of the lower part of the cheeks, the bend of the elbows, the inner sides of the thighs, and the ham and calves of both legs, besides some patches on the trunk. The patches were rough, thickened, and moist, and tolerably well defined in parts at their margins. They itched much, and this prevented sleep. The disease began, when the child was three months old, on the head, crept down over the face, and finally localised itself in the situations named.

The girl was pale, the skin thin and soft, and, though not absolutely emaciated, the subcutaneous fat was scanty, while she had an oldish cast of countenance. The bowels were said to be natural in action. Till six months old she had been brought up exclusively on milk and lime water; then she had one cup of tea, same strength as her parents, daily, and bread and milk. At a year old she had not only tea twice daily, but the run of the table, and, thus treated, her eczema continued to spread. It never became well, and though some treatment had been adopted no alteration in the dietary had been made. The skin, too, was washed daily. I ordered a meal of well-boiled porridge and milk for breakfast, and a simple but varied diet otherwise; the entire discontinuance of tea and substitution of milk; locally, avoidance of washing, merely cleansing with gruel or bran water, and the application of zinc ichthyol glycerine jelly once a day; also twenty drops of Fellows' syrup thrice daily.

Under this treatment a steady and rapid improvement took place, and a cure was the final result in no long time.

While these are the predisposing causes of eczema in children, there are certain alleged or real exciting ones which merit consideration.

Vaccination is one of the most commonly assigned causes of eczema. The mother blames "bad matter" as the source of her infant's eruption, yet close inquiry and the general experience of the medical profession are opposed to this. The only mode in which vaccination may sometimes provoke an eruption of eczema is by means of the constitutional disturbance which vaccinia occasions. We occasionally see an eczematous eruption develop round the declining pustule, yet this seldom spreads far. Vaccination, too, has been recommended as a cure for eczema in children.

The eruptive fevers rarely excite eczema. One form is, however, an exception. Eczema of the edges of the eyelids is very often indeed one of the sequelæ of measles, not merely in the strumous, but in apparently healthy children. Now, this may almost certainly be prevented by attention to the eyes and

eyelids *during* measles. Whenever the catarrhal condition shows itself, the eyes should be sedulously shielded from light, and the room darkened. The eyes should be bathed with tepid water three times a day, carefully dried, all crusts removed, and some freshly prepared unguentum cetacei gently smeared along the margins of the closed lids. When this is done till convalescence is established, I have never seen more inflammation result than the production of one or two styes at most—never eczema. When these appear, small doses—$\frac{1}{10}$ grain—of sulphide of calcium in coated pill should be administered thrice a day, and cod-liver oil prescribed.

Seborrhœa of the scalp, either when neglected, or if the resulting crusts are too roughly removed, is sometimes the starting-point of eczema of the head. It is very probable that as the skull is defective at birth at the fontanelle, the skin which covers in those parts may in like manner be imperfect, and thus be liable to take on a form of superficial catarrh more readily there than elsewhere. There is a popular belief that a child takes cold at the "open of the head," and though this can scarcely be literally true, it is certain that the skin there becomes easily coated with a morbid secretion from the skin glands, and this becomes the starting-point of an eczema which may travel far.

Exposure of the face to cold winds, washing with too strong soap and subsequent neglect in drying the skin, especially in the furrow behind the ears, are other exciting causes; while neglect of cleanliness in the matter of napkins is another. In the over-fed, the perspiration readily turns rancid, and may thus spontaneously irritate the skin, or scald opposing surfaces, as in the folds of the neck or the groin. In these latter, too, there is a predisposing cause due to the very superabundance of their nutrition. The rapid deposition of subcutaneous fat stretches the skin beyond what is provided for by the regular increase in size of the cutaneous envelope, and this stretching is felt most severely at the surface. The horny layer—thin and delicate—

cracks, and then any of the exciting causes above mentioned serves to determine an outbreak of eczema. The cracks in the corneous layer are microscopic, but there can be no doubt of their occurrence. Mere over-stretching of the skin from excessive rapid obesity can cause linear atrophy of the skin[1] and in a less pronounced degree can fissure the epidermis minutely. This fissuring occurs in particular in places where the skin is stretched over bones, as over the malar bones; and then cold winds, or soap, are quite enough to do the rest.

Eczema in fat children is exceedingly obstinate, this inveteracy being due to the slow circulation of the blood and lymph, resembling in this respect the delayed circulation in the legs of adults when varicose veins are present. Yet, notwithstanding, the prognosis of infantile eczema is undoubtedly good, provided we can have the treatment fairly carried out, and it is all-important that such eczemas should be cured as speedily as possible, as, unless this is done, what may be termed an eczematous habit is sometimes established, and the disease may linger for many years.[2] There is certainly no danger in curing the eczema of children any more than that of adults. The idea of driving the eruption in is based on a fallacy, and parents who dread this never think that the same reasoning would apply equally to the cure of bronchitis, or the stoppage of a diarrhœa.

In the management of a case of eczema in a child, the first point to be considered is the dietetic one; unless this be most carefully regulated as to time, quantity, and quality, our efforts will too often prove futile. The time of meals must depend on the age of the child, the interval being so long as to admit of the previous food which has been taken being fully digested, and the stomach empty and rested before a fresh supply is introduced. In doing so, however, it must be borne in mind

[1] Taylor, "Linear Atrophy of the Skin," *New York Medical Journal*, January 2, 1886.

[2] Some interesting examples will be found in Mr. Hutchinson's *Archives of Surgery*, April 1891, p. 327.

how much more rapid the digestion of young infants is in comparison with those more advanced in life. When infants are being brought up by hand the milk should have some alkali added, as this prevents the curd which forms in the stomach assuming too firm a consistence, as a result of the larger proportion of casein in the cow's as compared with that of the human female. Lime water is undoubtedly the best alkali to employ in the majority of cases, though this may at times be replaced by magnesia or soda. Care must also be taken not to dilute the milk too much: the rules in some works on infant feeding certainly err in this direction. One-fourth part of lime water without any plain water, or, if plain water be added, then less lime water, is generally sufficient, unless the milk is unusually rich; and as the child becomes older less dilution than this is advisable. It is a fallacy to believe that what is called "one cow's milk" forms the best substitute for the mother's. One cow's milk does not mean the same cow's milk; in a large dairy supplying many children such a thing is well-nigh an impossibility, when the number of persons through whose hands the milk passes before it reaches the consumer is taken into account. Thus a much more uniform milk can be obtained when a mixture of the milk of several cows is used. During winter, when cows are artificially fed, and with substances calculated as much as possible to increase the supply yielded, the milk is apt to differ considerably from that of grass-fed animals, and is more apt to disagree with the child. Boiling or scalding the milk does something to render this more wholesome. It must be remembered, too, that cows not suckling their calves are liable at intervals of each few weeks to pass through a condition allied to menstruation in the human female, and this has been shown to exercise a decided effect on the chemical composition of the milk. That drawn from the cow under such circumstances is apt to disagree with the child.

I have a decided objection to the use for infants' food of all kinds of condensed milk. The excess of sugar is itself a draw-

back, while the difficulty of avoiding a too great thinning of the fluid on the one hand, and a too high concentration on the other, constitutes another. In one case the solid ingredients are too small in amount; in the other the sweetness is intense; the child is either apt to be starved or to become over-fed, without being firm. The use of condensed milk is fostered by the laziness of nurses; it is so much easier to mix a teaspoonful of this "milk jam," as it has been aptly named, with warm water, than to preserve sweet and mingle suitably ordinary cows' milk. Neither can any of the infants' foods so largely advertised entirely replace milk. In some instances they may possibly be used without detriment in conjunction with fresh milk, but it is just as impossible for a child to be thoroughly healthy when deprived of fresh milk as it is for an adult to be so when he does not have fresh vegetables.

When the infant is being nursed by its mother, our attention must be directed to her dietary even more than to that of the infant, as it is by duly correcting what is defective here that we can alone influence the child. Milk with a proportion of lime water forms for her the best, as it is the most reasonable, material to form milk. All fermented liquors, though they may increase the quantity of milk secreted, affect its quality: and on moral grounds alone it is not a good thing to advocate the ingestion of alcoholic liquors by a nursing mother. For the maintenance of her infant in health the mother must practise self-denial; her life in all respects must be regular, and her food varied and scrupulously plain.

In the eczema of the over-fed we can scarcely obtain much result without a diminution of the nutritive materials, often also a change in the nature of these, while the regular, due, and perfect action of the bowels must be established. The child must neither drink so often nor so much, either by day or night. Milk in such cases may sometimes be replaced with advantage by gruel made from barley meal or groats. Bohn advises that, instead of milk, eggs whipped up in sweetened water should at

times be given; this will be found nutritious and not so fattening. In the eczema of the strumous certainly, and frequently also in that of the over-fed, cod-liver oil is not infrequently of much value. This arises in the latter case from the fact that the fatty condition in them is due to the metamorphosis of starch into an imperfect fat.

The medicinal treatment of infantile eczema, though less important in some respects than the dietetic, unfortunately is more regarded by the laity. In all forms of eczema in children, constipation, if present, must be corrected. Judicious dietary and habitual prompting of a punctual evacuation will do much. The liver is often at fault in such cases, and the bile, the natural stimulant, is defective; therefore small doses of calomel (Liveing recommends the lozenge) or of grey powder, are of decided advantage in the commencement of the treatment, but should be discontinued after a few doses at intervals of a day or two.

The German liquorice powder, or rhubarb and soda, are then of more value; and lacto-peptine, with or without a little bismuth, by starting digestion and relieving a certain degree of gastric catarrh, is very frequently used with marked effects. The two last-named remedies should be given three times a day and after food.

In the strumous and anæmic cases Parrish's well-known syrup is one of our most efficient tonics, given diluted in full doses. Easton's or Fellows' syrup, in children over two years old, sometimes does even better, particularly when the appetite is somewhat capricious or defective. Arsenic, as the liquor sodæ arseniatis, or the solutio Fowleri, combined with iron wine, is of use in some cases, but those exactly calculated to benefit from its exhibition are rather difficult to indicate in writing. Relatively large doses of arsenic are well borne by children. In the over-fed and full-blooded, alkalies seem most beneficial. Small doses of liquor potassæ well diluted, or the acetate of potass with a little tincture of nux vomica, are those I use chiefly.

In the local treatment it is especially important to bear in

mind the tenderness of an infant's skin, and thus all sources of irritation are to be even more carefully obviated than we have found necessary in the disease in adults. There is in general a tendency on the part of mothers and nurses to cleanse the affected part too diligently. When the exudation is thin, it rapidly dries, and produces a varnish, which is Nature's mode of protection. This soon cracks, however, partly because it is over-distended by the swollen cells below, partly because it dries too hard and fissures, partly it is torn by scratching. It is an attempt at repair which too much cleansing destroys, and, especially when soap is used, the tender, swollen, and inflamed cells of the rete are laid bare, and in consequence the disease spreads both more widely and deeper. Gruel or bran water should alone be employed for ablution, and this merely when absolutely necessary. Soap must be wholly discontinued in the case of children affected with eczema. Sometimes we need to have recourse to poultices for the purpose of removing accumulated crusts and scabs. These may be linseed, or cold boracic starch, renewed and continued just so long as is needed to soften the accretions and to render the surface sweet; no longer, else the part becomes weakened. The skin should thereafter be bathed with a liquid made by boiling rice in milk and water, and straining subsequently. This forms one of the most soothing of all detersive applications.

In many cases of acute or subacute infantile eczema, the most suitable treatment is that by sopping with diluted black wash, or lead and opium lotion, and then coating the part when dry with an ointment of carbonate of zinc, vaseline, and cold cream, as has been described under the treatment of eczema in general. In this way we may be able to carry the case on to the scaly stage, when the cure may be completed by the use of glycerine of starch, or the same ointment with a little (two per cent) of salicylic acid added. The boracic-calamine lotion will also be found a very useful protective in the case of irritable eczema of children, when a drying lotion is indicated. This

latter is often the only available application when large areas of skin are affected. Resorcin has been recommended by Cattani in pustular eczema of the face and scalp as an ointment, in the proportion of 48 grains to the ounce of vaseline; but I have found Ihle's paste, already mentioned, a much better application when the acute stage is past. While it is being used, the solution of nitrate of silver may be painted on to any oozing patches. Lassar[1] advises that while such a paste as his is applied to the body, the head, face, and joints should be smeared with a two per cent salicylic vaseline and bandaged with muslin so carefully that no struggling can move them.

Unna's zinc ichthyol salve muslin proves an admirable remedy in the drier varieties of eczema in children, and strips can be fitted on and secured by a muslin bandage, or the edges painted with the glycerine jelly. In like manner the two glycerine jellies are of incalculable value in treating eczema of the trunk and scalp, and even the face, in infants and children. Sometimes one, sometimes the other, agrees best.[2]

The unguentum vaselini plumbicum spread thickly on strips of cotton or of linen is also of value. A bismuth ointment suggested by Dr. M'Call Anderson is also advantageous in certain cases. It is thus prepared:

℞	Bismuthi oxidi	ʒi.
	Acidi oleici	℥i.
	Ceræ albæ	ʒiii.
	Vaselini	ʒix.

The bismuth and the oleic acid are carefully mixed, then allowed to stand for twenty-four hours, and the mixture is placed in a water-bath with the wax and vaseline, the whole melted and thoroughly incorporated by stirring till cold. In place of bismuth oxide of lead may be substituted. With its use may be combined the application of weak lotions of nitrate

[1] *Journ. of Cut. and Gen.-Urin. Dis.*, October 1889.
[2] Unna, *Das Ekzem in Kindesalter*, Berlin, 1884.

of silver (1 in 500) applied as compresses on lint covered with oiled silk or gutta-percha tissue for two or three hours night and morning, while the ointment is used in the intervals.[1] In the pustular forms, or where crusting is a marked feature, a weak ammoniated mercury ointment spread on the skin after their removal often rapidly induces healing.

Tar can only be employed with certain precautions to the skin of children. We must counteract its irritant effects by the addition of zinc. Thus a drachm of well-made unguentum picis or half a drachm of liquor carbonis detergens, a drachm of oxide or carbonate of zinc, and an ounce of cold cream, with or without a drachm of pure American vaseline, compose one of the safest tarry ointments in use. This can be applied to all dry and chronic forms of eczema, but even then its continuance needs watching, lest we overstep the limit of toleration.

In association with local treatment, the question of mechanical restraint comes to be considered, and its advantages have been argued by Dr. James White.[2]

It is plain that when itching is severe something more than reason must be brought to bear in their case. Masks for the face and cotton caps may save these parts from injury by friction or the nails, but where the surfaces implicated are extensive, the repression effected by enveloping the child in a pillow-case, by means of which the arms can be kept by its side, and the limbs restrained by securing them by safety pins passed through the cotton, will enable us to eliminate the hurtful results of scratching. It is true there will be some resistance, but even a day or two will obtain some degree of rest to the tender and inflamed parts.

While we treat the child and the mother, all articles of dress must be soft and clean. The linen tends to become stiffened by the discharge, and abrades the surface. Soiled napkins scald and macerate the skin, and favour the development of eczema.

[1] C. Boeck, *Viertlj. für Derm. und Syph.*, June 1888.
[2] *Boston Medical and Surgical Journal*, October 20, 1881.

The tendency, then, should be to wash the clothes rather than the child, and to keep it warm, and, above all, dry.

James Nasmyth, in his delightful autobiography, has framed what he terms the "Dial of Life," having a range from the first to the eightieth year. On the diagram he has drawn a horizontal line, extending from the thirtieth to the fiftieth year, which he calls the plane of life, and during which time active effort is carried on best, while the organism continues pretty uniformly in the same state. Up to thirty there is a rise in energy, after fifty there commences a decline; the stores which have been accumulated can be drawn on to a lessening extent each year, and ailments which, in some respects, bear a resemblance to those of childhood may manifest themselves.

To this period of decline, in its initial stage, the term of climacterium has come to be attached, but the actual onset differs a little in man and woman. As far as eczema is concerned, that which may be named climacteric eczema appears at a later period of life in man than in woman, though in them both, when once it has manifested itself, it may, unless suitably treated, persist for many years. According to Bohn, who has recently directed attention to the features of the complaint in women,[1] a period of time of from twelve to fifteen years must be allotted to the climacterium, within which the conditions arising from the systemic disturbance exert their influence in inducing eczema. Only at two decennial periods do the numbers of women affected with eczema exceed those of man, viz. between ten and twenty and between forty and fifty,—the periods when menstruation is being established, and when, as a rule, it ceases. Usually the monthly loss has ceased when the eczema appears. This form exhibits a proneness to relapse, and to the recurrence of eczema in certain definite regions for many years. More than three-fourths of the cases occur on the scalp and ears. The extremities also may suffer, but the trunk is scarcely affected in any case. The scaly and weeping varieties predominate, in

[1] *Deutsches Archiv für klinische Medicin*, October 1886.

contrast to the pustular form, which attacks infants. Itching is well marked. From the commencement to the close there may be no more than a dry pityriasis eczema, with some loss of hair, liable, however, to be transformed into the moist form by external or internal irritants. Arsenic exerts considerable influence in restraining the advance of the disease, and the best local remedy seems to be the ointment of the ammoniated mercury. Bulkley recommends in eczema of the face and head a tannin and carbolic ointment continuously applied and

℞ Acidi tannici . . . . ʒi.
Acidi Carbolici . . . . grs. v-x.
Cerati Galeni . . . . ʒi.
——M.

renewed as often as it is rubbed off or soaks in. In some cases, however, Hutchinson's lotion is better.

There is one other form of eczema, seen more frequently in elderly men than in women—where the disease spreads till it becomes universal, or nearly so. Mr. Hutchinson has alluded to this in an excellent lecture delivered before a branch of the British Medical Association.[1] A man has had for some time a patch of eczema somewhere; often on the leg. This caused little annoyance and was neglected. He is usually over sixty, and has of late become thinner and less active. Fresh patches, small at first, appear, often symmetrically. They are red, rough, and scaly; then they ooze little by little; as fresh ones appear and the old ones creep on, large areas of skin become involved, and the burning and itching are severe. As Mr. Hutchinson remarks, "I by no means wish to ignore the influence of constitutional causes and of diet in favouring the spread of eczema, but, while admitting them to a share, I still believe that an infective process is by far the most important influence. If you let eczema alone, it becomes worse and worse. Self-aggrava-

[1] *British Medical Journal*, July 23d and 30th, 1887.

tion is its law, and that aggravation is brought about by infection, in part local and in part through the blood."

When we recognise such a case in an elderly man or woman, there is one point in treatment which is all-important,—the patient must be put to bed and kept there. We all know the danger of catarrhal affection of the lungs under such circumstances; a severe bronchitis, steadily advancing and becoming worse, would alarm us at once, and such eczemas are also dangerous, sometimes fatal. Consequently the horizontal position and the equable temperature, to be attained nowhere but in bed, must be assumed and submitted to. According to Bulkley,[1] who has made a special study of senile eczema, the chief elements of causation seem to be a debility of tissue, rendering it everywhere prone to take on inflammatory or degenerative action, and as an early or internal cause, a certain faulty kidney disorder. Imperfect or deficient relief by the bowels is also common. Our treatment should be directed to discover the nature of these perversions, and to remedy them. Sedatives are sometimes needed, and as opium is inadvisable, phenacetin in five grain doses, taken in hot water before or on retiring to bed, suits well. The dose may be repeated if necessary in an hour. As to stimulants, while such should not be too hastily withdrawn from those habituated to their use, their employment ought to be restricted to meal-times, and should it be possible to abandon them entirely, the cure will be a speedier one. Tea and coffee do much less harm in advanced life than during the early years of existence, indeed their influence in restraining tissue waste may be advantageous. The amount of food must be carefully adjusted to the condition of the digestive powers, while any over-taxing of the system by pressing what is termed "strengthening food" is to be avoided. As to treatment, dusting with the salicylic dusting powder, poulticing with boracic starch, painting several times a day with calamine lotion containing two per cent of carbolic acid, and

[1] *Trans. Med. Soc. of State of New York*, 1890.

the application of zinc ichthyol, or the salicylic glycerine jelly, afford us the best means of combating the disease.

The following three cases illustrate as many forms of this climacteric and post-climacteric eczema.

46. M. C., fifty-three, went out in December from a hot room into cold air, and when seen two days after there were patches of acute moist eczema on scalp, forehead, under eyes, and on the nape of the neck. These itch and burn. She is a thin lady, unmarried, active, and usually has good health. The scalp was directed to be washed with a decoction of Quillayia bark, the face bathed with warm milk in which rice had been boiled and strained off, then sopped with black wash, and smeared gently with a carbonate of zinc ointment in cold cream, while internally the mixture of potass acetatis, tinctura nucis vomicæ, and tinctura cinchonæ was prescribed. Under this treatment the eruption subsided and was nearly well, when it suddenly extended as an attack of acute erythematous eczema all over the body. For this mild baths of potassa sulphurata, followed by calamine lotion, were prescribed. The acute attack subsided under this medication, but left the face somewhat irritable, and the scalp dry and scaly. This was much modified by an oleate of zinc dusting powder to the face, and the application of the liquor carbonis detergens and liquor plumbi subacetatis lotion to the scalp. She had not entirely recovered in April when she left Edinburgh, and I advised a visit to Luchon, and a course of the baths there. This quite cured the eczema, and though two years have elapsed, she has had merely very trivial reminders of her ailment.

47. M. M., fifty-six, widow, one child. Stout, florid; liable to attacks of asthma and bronchitis. Menses have not appeared for six months. She complains of patches of dry, cracked eczema of lips and cheeks, and some more extensive and moist patches on the inner side of the thighs, and running up into the vulva. These itch and burn much. Bowels confined; tongue coated with thin fur. Takes no stimulants, but eats well. She

was ordered the mist. magnesiæ sulph. c. ferri sulph.; the zinc ichthyol jelly for the thighs, and zinc ichthyol salve muslin for face. I did not see her for some months; but when she returned, the face was well, but the thighs, ankles, and pudenda were red, oozing, rough, and itchy. She was now directed to use boracic starch poultices to these parts at night, and dust with the salicylic and talc powder during the day. In the course of six weeks she was nearly well, and felt comfortable.

48. J. M. A., seventy-four, a country gentleman who had lived an active life. Of late he had been much worried by business affairs. He had an ozæna and nasal catarrh for years, to which had become superadded an eczema of the upper lip. More recently an acute attack of eczema had come on, tending to spread widely. This had invaded in succession the face, chest, arms, and abdomen. The face was swollen, red, and intensely itchy. On the chest the skin was a tawny red, and it was swollen and brawny. He felt fairly well, but there was slight pyrexia. Starch poultices were applied to the chest, and when the irritation had been somewhat allayed, the skin was sopped with black wash, containing a little mucilage of tragacanth, and smeared with the carbonate of zinc ointment. Internally the same mixture of acetate of potass was given. The attack subsided considerably, but there developed increased itchiness and sleeplessness. The thickening of the skin had largely disappeared, and the eczema was now of the more purely erythematous character. A coating of the salicylic glycerine jelly produced a refreshing sleep. When the condition was reduced to mere redness, with some amount of itching, a carbolic and spirit lotion, and baths of potassa sulphurata and bran, cured him. Till convalescence was established, the recumbent position in bed was strictly maintained.

There are good illustrations of eczema in infants in *Duhring's Atlas*, Plate P., and the *Sydenham Society's*, Plate XVI.

CHAPTER XVIII.

ECZEMA AS INFLUENCED BY LOCALITY.

I.—Eczema of the Head and Face.

If age exerts a distinctly modifying influence on the course and characteristics of eczema, locality, too, has its effect in moulding the morbid appearances. The wear and tear to which every part of the surface is subjected comes after a different fashion to each. In one exposure to the weather, in another to friction, in a third to pressure or maceration, tends to lower vitality; and while the disease itself can be referred to one or other of the general divisions already described, there are peculiarities and details which require separate consideration.

A region frequently the seat of eczema is the head, and in this we may include not merely the scalp, but the face. From being so fully exposed to view, or from the discomfort with which it is accompanied, advice is more often sought for eczema situated here than when it occurs in more unobtrusive localities. It is, too, more stubborn and more difficult to manage satisfactorily here than in most other parts of the body. The face and the hands are those situations which seem most closely connected with the digestive organs. Dyspeptic states affect those even in health, and when attacked by eczema the disease grows better or becomes worse in exact proportion with the relative soundness or feebleness of digestion. Other circumstances which occasion exhaustion, as overwork or worry, tell

more deleteriously, too, on eczema in these parts than in most others.

Various hurtful influences have here free scope. Motion is more constant,—partly muscular, in eating, speaking, and from variations in expression; partly from the hair, which on the scalp and bearded face drags on the inflamed skin, and when combed moves it to and fro like a lever. The parts, too, are more scratched, often quite unconsciously, while the changes of temperature, both indoors and out, irritate these exposed parts very readily. For the sake of cleanliness, washing is too often indulged in, and the dressings are both more difficult to apply and more irregularly used than on regions constantly covered.

Eczema of the scalp may occur in one of three forms,—the pustular, the moist oozing, or the scaly. The pustular is most frequent in children, or in females whose health is below par. The pustules may be numerous, but soon burst, and their contents, mixed with sebaceous matter, form gummy crusts, which glue the hairs together. They resemble acne in occurring near hairs. There is more heat than itchiness complained of, and when the attack is an acute one, the scalp becomes swollen and tender. The cervical glands often enlarge secondarily, and this causes more alarm than the eruption itself. In some delicate women the disease tends to recur time after time, and may thus prove extremely obstinate.

The crusts from pustular eczema must be distinguished from those which arise as a consequence of the presence of pediculi. In the latter they are seated chiefly on the back of the head, where the hair is thickest, and are due to scratching. As such a result takes time, the nits of the louse can be found abundantly on the hair. Lice may, however, complicate pustular eczema, and then itchiness is a prominent feature. A pustular syphilide may likewise resemble this variety of eczema, but there is more crusting, and beneath this are ulcers and loss of tissue, a result which never occurs, except to a limited extent in much

neglected eczema, more particularly in the strumous or lymphatic, and amongst those in children, where the crusts have been permitted to remain long untouched. The distinction between simple eczema and impetigo contagiosa is of less consequence. In the latter the crusts are isolated, stuck on, and, unless where the disease is complicated with the presence of pediculi or with common eczema, there is little or no itching. The glands in the neck are liable to become enlarged in both conditions.

Moist oozing eczema exhibits the same features as on the trunk. Commencing on the scalp, it may spread over the ears, or behind them, to the neck, or over the forehead.

Scaly eczema of the head may be the final stage of either of the preceding, or may develop gradually from the erythematous. In this last condition it may be dry throughout. The scalp is reddened, and on this an imperfect horny layer is produced, which, being deficient in cohesion, constantly scales off in large fine flakes. This constitutes a common cause of dandruff or scurf. The inflammation is apt to change its type, and what was dry to-day may be moist or covered with crusts to-morrow. This variety is particularly frequent among persons just beyond middle life. There is a good deal of itching associated with it, and the hair becomes thin, ragged, and dry. We meet with this same scaly eczema near the nape of the neck, sometimes among the hairs, or extending as an irregular rough, red, dry, thickened patch down the back of the neck, where it is uncovered. This last variety is seen nearly always in women.

There are several forms of skin disease from which this scaly eczema of the scalp must be distinguished. One of these is seborrhœa. It is only the dry form of this which can be confounded with eczema. The scales are more greasy, are of a dirty yellowish colour, are loosely attached, and the subjacent skin is seldom reddened. Itching is less marked in seborrhœa, and there is no history of any moisture at any period. Many instances of apparent seborrhœa are, however, merely chronic

catarrh of the skin, with the production of dry scales saturated by excessive sweat.

In psoriasis the scales are larger and piled on the top of one another. The skin beneath is reddened and thickened, and the surface bleeds when scratched by the nail. The hair is usually unaffected. The patches are well defined at their margins, and when special localities elsewhere, as the elbows and knees, are examined, we can as a rule find characteristic patches. At times the scalp alone is affected with psoriasis, and when the patient is bald the scales may be few and thin.

Tinea tonsurans can only cause confusion when disseminated as a mealy scaliness over the scalp: this cannot happen till the disease has lasted some time. There may then be a fair growth of hair, but some comes easily out when pulled, and a microscopic examination of the epithelial particles and any stubbly hairs reveals the parasite. It is excessively rare in adults.

Favus is now so rare that it scarcely can lead to an error, and it is only when the disease has been temporarily checked and then left alone, so that a dry powdery state of the scalp is produced, that there is any resemblance at all. The microscope, again, will at once set us right; and a microscopic examination of the scales in all cases of eczema should never be neglected.

In the treatment of eczema of the scalp the internal management is exactly that of eczema in general, and need not be repeated, it being emphasised that in all cases special attention should be paid to the state of digestion and any disturbances this function may exhibit.

Is it necessary to remove the hair in such cases? If this can be done it makes the treatment both easier and more satisfactory. In females, in mild cases, such a course may be unnecessary, and though eczema seldom leads to permanent baldness, yet the weight of long hair dragging on the scalp, when inflamed, does tend to render a subsequent growth thinner, so that in severe forms certainly it is best to shave the head, more particularly in pustular eczema. All crusts and accumu-

lations of scales are to be removed by softening with bland and fresh oils; or by wearing for a couple of days a loose cap of thin indiarubber, which is probably the best and most effectual of all, as it causes a maceration from below upwards. This can be used equally well when the hair is present or has been cut. The now loosened *debris* is to be washed off and got rid of by means of soap and water and a comb, time and care being devoted to the operation. The head is then carefully dried.

When pediculi are present, or nits are discoverable on the hairs, a further procedure is necessary. The hair must be well soaked with petroleum, either pure or mixed with olive oil, so as to soften the crusts at the same time, for twenty-four hours, and then the head may be washed with soap and water, in order at once and thoroughly to get rid of these pests. If the hair has been removed the continuous application for several days of cold boracic starch poultices, followed by a single thorough washing, is by far the best method of getting rid of crusts and other *débris*.

When the disease occurs in the pustular or moist form our efforts are to be directed to soothe all irritation, and when this has been accomplished, to conduct the case as rapidly as may be to the condition of a dry and scaly eczema. If at all practicable, and the scalp has been shaved, painting the surface with a solution of nitrate of silver in spirit of nitrous ether, 16 grains to the ounce, will accomplish this more effectually than any other means. The pain can be prevented by the previous application of a 4 per cent solution of cocaine, while the nitrate of silver ought to be reapplied at intervals of from one to three days.

Lotions, as a weak carbolic acid one, 45 grains in 8 ounces of water, with or without a drachm of pure glycerine, will be found comforting in some cases; or black wash, followed by carbonate of zinc ointment, in the mode described already; or, again, the application on strips of cotton or muslin of the unguentum vaselini plumbicum closely bound down to the head,

and covered with a silk or cotton skull-cap, often checks the progress of the disease.

While these remedies are satisfactory in many cases, a different mode of management is very successful in others. The head having been poulticed till clean with boracic starch poultices, the zinc ichthyol jelly is painted on, and covered with a thin layer of absorbent wool. This should be bathed off with warm water once a day, and the jelly at once reapplied. So long as improvement continues, the application of the jelly should be persevered in, but when the progress seems arrested, and the scalp has become dry, Ihle's resorcin paste forms the best application. Occasionally Ihle's paste proves too drying; in these circumstances the following may be used instead:

℞ Acidi salicylici,
Resorcini, aa. . . . . ʒss.-ʒi.
Glycerini,
Sp. vini. rect., aa. . . . ℥ss.
Aq. distill., ad . . . ʒvi.
——M.

If the methods by means of ointments or lotions are adopted, the head must be cleansed occasionally by bathing with gruel, or washing with an infusion of Quillayia bark in cold water to which some hot has been added, or by the use of the valoid or equaloid of Quillayia bark,[1] in the proportion of a dessert spoonful to a couple of quarts of warm water, or by the use of Unna's over-fatty soap. In one of these ways secondary products are removed, but this should only be resorted to when necessary, and the effect of washing on the condition of the scalp and the progress of the disease carefully watched.

When the disease has been brought into the scaly stage by these measures, or has been so originally, astringent or stimulant remedies suit better. One of the most generally applicable is an ointment of tannin, as recommended by Bulkley, one drachm

[1] Messrs. James Robertson and Co., George Street, Edinburgh.

to the ounce of cold cream, to which I usually add a drachm of vaseline, and in some cases 5 to 10 grains of carbolic acid. This must be brought in direct contact with the scalp, the hair being divided with a comb, and the ointment gently smeared over each division. A small quantity should be used each day, or the scalp will be made too greasy. The mercurial ointments are also useful at this stage; one drachm of the ung. hyd. nit. in one ounce of cold cream, or made rather stronger; or one drachm of oleum rusci, or oleum cadini, in an ounce of the same excipient. The occasional employment of a sulphur ointment for two or three days at a time (one drachm of precipitated sulphur in an ounce of vaseline) acts as an alterative.

In cases where the scaly form has persisted all through, the lotion of liquor carbonis detergens and liquor plumbi subacetatis is most useful, and should be persevered with for months if necessary. Another valuable lotion is—

℞ Acidi boracici	ʒii.
Glycerini puri	℥i.
Tinct. lavandulæ comp. . .	ʒiii.
Aquam distillatam, ad. . .	℥viij.

To be applied with a sponge twice a day.

The following case may illustrate the course of treatment.

49. L. M., thirty-seven, grocer. Though living in the country and fresh in colour, he could scarcely be called robust. The scalp is dry, tense, and not freely movable over the cranium. The hairs are thin, dry, and lustreless, and he is bald over the vertex. There are moist oozing areas, crusts, and parts bearing dry scales. He complains more of pain than itchiness. The scalp was poulticed with the boracic starch poultices till the crusts were softened and the surface rendered clean; then painted with the zinc ichthyol jelly after shaving. This was continued for three weeks, till only a very few superficial weeping areas remained. These were treated for a week with a weak ammoniated mercury ointment; and the condition being one merely of dry

scaly eczema, Mr. Hutchinson's lotion was prescribed and continued for two months, when he was quite well.

The form of dry scaly eczema found on the nape of the neck, and often closely resembling psoriasis, yields best to repeated paintings with chrysarobin traumaticine, as described under psoriasis, or after denuding the neighbouring parts of hair for the space of a couple of inches, should the area of disease encroach so nearly on the scalp, by the continuous application of Pick's salicylated soap plaster, till the induration has disappeared.

Like the scalp, eczema may attack those parts of the face covered with hair in the male adult, and the distinction between such and sycosis is by no means easy. In some cases we have eczema elsewhere, as of the margin of the eyelids, ears, etc., or we may be able to decide by tracing the progress of the disease. In eczema the ailment is at first a moist eczema, which secondarily becomes pustular; in sycosis the pustules are primary, the intervening tissue being secondarily affected. In truth, the treatment for sycosis is much the same as that for this impetiginous eczema. A case as illustrative may make the management clearer.

50. A solicitor, twenty-five, came to me some years ago. His history was that an eczema appeared on his cheeks seven years since, at the time when the whiskers began to grow, and this has continued and extended. The skin at the upper part of the whiskers is red and infiltrated, and oozing; lower down there is less redness, but in addition pustulation. There was more pustulation than infiltration. Struma is hereditary in family, and he has tinea tarsi, or eczema of the edges of the eyelids. He was directed to bathe the cheeks with warm gruel at night, to puncture the pustules, then sop on some lotio nigra, and over this apply the carbonate of zinc ointment, mentioned already. In the morning, after washing the face with warm water, to dust with a powder composed of oleate of zinc, boracic acid, and French chalk. Internally, besides a regulated dietary, he was ordered $\frac{1}{10}$ grain of calcis sulphurata in pill thrice a day,

and cod oil at bedtime. Weak yellow oxide of mercury ointment for eyelids. He was not seen for three months; the face had much improved, and the ointment was altered for one of acid salicylic gr. x., tinct. benzoini ℥xx., vaselini ʒvii., and paraffini ʒi. This to be applied twice a day. Under this treatment he became quite well, the only alteration being the prescription of mist. ferri comp. instead of the calcis sulphurata. Four years after he remained well.

In similar cases to that just related another ointment will be found of much value.

℞	Acidi salicylici . . .	grs. 10
	Zinci oxidi	grs. 60
	Ung. lanolini	ʒi.
		——M.

While this is used the parts are to be cleansed with the over-fatty potash soap and warm water, or with the diluted equaloid of Quillayia.

The parts of the face uncovered with hair are liable, like the rest of the body, to the moist or pustular forms of eczema. Both are chiefly found in children, but the erythematous variety is met with in the adult, and often proves rebellious to treatment. In this case the skin is seldom at any stage wet; the disease remains dry throughout. The forehead, the cheeks, chin, and neck, both in front and behind, are specially implicated. The skin is rough and dry, of a dusky, or at times yellowish red colour. The patches may be pretty definitely limited at their margins, or fade more or less imperceptibly into the surrounding unaffected skin. The skin over the eyebrows is a tolerably frequent situation, and then the disease is most developed among the eyebrows themselves, becoming fainter higher up the forehead. The nutrition of the horny layer is considerably interfered with, and thin dry flakes are apt to form and adhere with some degree of firmness. Itchiness and burning and stinging sensations are complained of, combined with a feeling of

constriction. Very often there are patches scattered over the face near the sides of the nose, slightly red, rough, and dry.

While in many cases there is little complaint of ill-health, close inquiry will usually elicit some digestive disturbances, and it will be found that for some time the skin of the body generally, or at least of the exposed parts, has been dry and unperspiring. Frequently, too, there has been some loss of weight, and a diminution of the subcutaneous fat. The disease may not be limited to the face, but is found elsewhere. Exposure to considerable heat, or to draughts, has seemed to induce this form of eczema in some cases. Thus it is not uncommon in firemen and engine-drivers, and in them discontinuance of occupation for a period is an essential element in treatment.

Erythematous eczema here is sometimes mistaken for erysipelas, but this error should scarcely be made. There is seldom any elevation of temperature, unless the attack be an acute one. There is no well-defined and extending margin, and though there may be some swelling and infiltration, the part is not tender to touch as in erysipelas. The small dry patches may look like tinea circinata; and indeed occasionally the resemblance is pretty close, as is natural, seeing that the parasite in tinea sets up a dry superficial eczema. The microscope affords a certain and easy test. Rosacea, when there is little accompanying acne, has a slight degree of similarity. But the skin here is smooth and cool to the touch, and though it burns when exposed to change of temperature, it does not itch. Again, this form of rosacea is chiefly seen in women, or confined to the nose in men. Lupus erythematosus, in its more superficial form, must also be discriminated; but the slow and steady advance, the symmetry, and the rounded well-defined margin, with the absence of subjective sensations, and, when it has lasted some time, the formation of thin cicatrices, will all aid in coming to a correct conclusion.

In the treatment of erythematous eczema of the face, most good is obtained by action either on the bowels or kidneys.

The mixture of Epsom or Glauber's salts, with sulphate of iron, which has been mentioned in the general treatment of eczema, is particularly effective; or, if the kidneys are sluggish, then acetate of potass, with tincture of nux vomica and tincture of quassia or cinchona, will in common be found of most value. While these two mixtures are the ones indicated in a large number of such cases, all other digestive derangements need careful rectifying.

In local treatment one cardinal point is the avoidance of washing. The evaporation from the surface, apart from the drying effect of soap, should that be employed, seems in itself harmful. When cleansing is necessary, those bland fluids which have already been so often alluded to are to be made use of rather than plain water. No form of soap is admissible. When there are but small and superficial dry patches, the carbonate of zinc ointment, made with vaseline and cold cream, should be smeared on at night in going to bed, more particularly should the face need washing next morning. This ointment, too, will be found the most serviceable for use during the day, as it is colourless, and lends little of a greasy aspect to the face when thinly applied. The calamine lotion, to which a little sulphur has been added, suits in cases which have passed their acute stage, but the stimulating action of the sulphur on the skin must be watched, or the mild antiseptic and soothing effect of boracic acid may be combined by adding one drachm to six ounces of this lotion, omitting the sulphur. The "oleo-calcareous" lotion is also extremely useful. On the nape of the neck a small quantity of tar added to the zinc ointment may be advantageous. Chaulmoogra oil, a drachm to the ounce of cold cream, is also a suitable unguent in erythematous eczema of the face. Five to ten grains of salicylic acid may be added to any of these should the skin be not too tender and sensitive. This, from its peculiar regenerative influence on the outer layer of the epidermis, is undoubtedly beneficial.

The eyelids are at times the seat of eczema, not merely their

margins associated with inflammation of the Meibomian follicles constituting the disease known as tinea tarsi, but their outer surface. This is seen at times in association with hay asthma. The eyelid becomes swollen, and the skin abraded, while little fissures form in the folds. Some good is done by painting with nitrate of silver solution in nitrous ether, especially in a form which arises from the use of atropine drops, but the general health in such cases needs attention, and Blaud's pills or Fellows' syrup will often do more good than any local medication, causes of worry or exhaustion being at the same time sought for and corrected. A weak calomel ointment, half a drachm to the ounce, or one of boracic acid one drachm, prepared chalk three drachms, and fresh lard half an ounce, may be applied to the surface of the eyelids. For the margins careful removal of all scabs at frequent intervals, the use of a 1 in 50 boracic lotion to the conjunctiva, and an ointment of one grain of the yellow oxide of mercury in two drachms of freshly prepared unguentum cetacei, smeared gently on night and morning, is most effectual. Should a slightly more stimulant lotion be indicated for the eyes, that made by dissolving 8 grains of bi-sulphate of quinine in as many ounces of distilled water will commonly afford relief, employed twice or thrice a day.

Eczema of the nostrils is said to arise out of a chronic nasal catarrh. The interior of the nostril feels hot and tender, and its lumen is lessened by swelling. Small cracks are apt to form, pustules to make their appearance in the neighbourhood of the vibrissæ, and crusts, due to serous and purulent secretion, to accumulate and block the passage. These are particularly apt to form in the angle between the alæ and septum in front.

The eczema of the nose as a rule yields easily to treatment if limited to that part. The crusts are all to be carefully removed, and the interior of the nostril smeared several times a day with the ointment of salicylic acid, carbonate of zinc, and cold cream. If there be chronic nasal catarrh, warm lotions of

boracic acid and common salt, one drachm of each to a pint, should be drawn through the nose, and the nares carefully dried with absorbent cotton wool, before the ointment is applied.

Eczema of the ears either affects the pinna, or the space behind and between the auricle and the scalp, or the meatus. That behind the ears, in the sulcus, is frequent in children and old people, less common in middle life.

On separating the auricle from the side of the head, the skin is seen red, moist, and steaming, and there are usually some fissures close to the point of juncture between the ears and head. The inflamed part is more painful and hot than itchy, and is really an eczema intertrigo, much as is met with elsewhere, as in the folds of the neck or groin in fat children, or under the dependent mammæ of stout or elderly women.

The treatment in all these cases is much the same, and consists in separation of the surfaces, and the employment of measures calculated to prevent the secretions from becoming rancid and causing excoriations. It must be remembered that an erythema intertrigo is often the starting-point of an eczema intertrigo. The ear is to be separated from the head by salicylic cotton wool, the part having been first washed and dried, and a boracic lotion, 10 grains to the ounce, applied, or a salicylic zinc ointment. The disease may sometimes be cut short by painting with the solution of nitrate of silver, provided the parts be afterwards kept apart, and Ihle's paste applied.

Eczema of the meatus sometimes depends on the accumulation of rancid and decaying epidermic accretions, mixed with masses of wax. In such cases the lumps which are syringed out have a most offensive odour. It will not do merely to wash out the meatus after preliminary softening with glycerine, and leave the parts alone; we must persevere in the use of a lotion of carbolic acid gr. v., sulphate of zinc gr. v., glycerine ʒi., and water an ounce, a little poured in once a day; or of a boracic acid lotion, followed by blowing finely powdered boracic acid through a quill, to which a piece of indiarubber tubing has been

attached, after drying out the ear canal with a pencil of absorbent cotton. Chronic scaly eczema of the meatus is a troublesome affection. There is a constant exfoliation of flakes of epidermis from the interior of the tube, while fissures and cracks form, and the membrana tympani may be implicated, and more or less deafness result. In this condition occasional syringing, careful drying, and the use of tannin ointment, ʒi. to the ounce of cold cream, passed well into the canal, as Bulkley recommends, will in most cases cure the disease. I have also found painting the interior of the meatus with a solution of nitrate of silver in spirit of nitrous ether a great assistance in many cases, but its employment must neither be too frequent nor be continued too long.

An excellent illustration of the purely scaly form of eczema of the scalp is to be found in *Wilson's Portraits*, Plate A X, of eczema squamosum of nape of neck in *Duhring's Atlas*, Plate I.

CHAPTER XIX.

ECZEMA AS INFLUENCED BY LOCALITY—*continued.*

II.—Eczema of the Trunk, Perineum, and its Neighbourhood.

We may meet with an eczema affecting mainly the trunk as opposed to the limbs and head, which apparently develops from a previously existing local eczema, as a result of that process of auto-infection described by Mr. Hutchinson. This may be in the main papular, or consist of thickened infiltrated areas—lichen agrius of old authors,—or there may be moist patches either oozing, or more or less crusted over, or the areas affected are dry and somewhat scaly. Occasionally the disease in its chronic form may be nearly universal, the characters being those of eczema rubrum; the surface is raw and red; the skin infiltrated, and the itchiness severe. The points of distinction between this and general exfoliative dermatitis are often obscure, but in the latter the skin is dry throughout, and there is a continuous desquamation of thin, leaf-like flakes of epidermis. The itching and burning are less marked also than in eczema. In all the varieties of eczema there is itching, most marked perhaps in the papular, but troublesome enough in the moist and scaly. Pustular eczema of the trunk is uncommon, unless ecthyma be taken as a species of eczema.

When the disease is at all extensively distributed, there is almost certainly a manifestly lowered state of the general health. Like other forms of inflammation, this may arise in the young

adult from chilling after over-exertion and fatigue. In the more elderly, however, it indicates rather a break-down from injurious influences which have been in existence for some time. In them the skin rather than an internal organ has shown symptoms of weakness. Did we know the life history of the individual and his pedigree from a medical point of view, the reason for this might be tolerably plain, but the very fact of the occurrence of pretty extensive eczema in a middle-aged or elderly person points to a restorative treatment in its widest sense. The actual exciting cause of the eczema may be some article of underclothing, poisonous from an arsenical dye, or too rough in texture, or an over-treated scabies may be the commencement of a troublesome form. When the axillary region is affected, the cause may have been in females the use of "dress preservers," perhaps from the carbolic acid or sulphur in the rubber. This form must be distinguished from the so-called eczema marginatum or ringworm of the body, which also affects this region. The margin of eczema fades more or less imperceptibly into the surrounding skin over the pectoral muscles. In ringworm the margin is well defined, linear, and more highly tinted than the included area.

The internal remedies indicated in eczema of the trunk are much the same as those already mentioned when speaking of the general management of the disease. At the same time the special element of debility, so characteristic of the diffused form, must be borne in mind, and while eliminative measures may be adopted at the outset, our mainstay should be tonics sooner or later. It is in the acute generalised eczema in its early stages that antimony, as suggested by Cheadle, in doses of $\frac{1}{12}$ to $\frac{1}{6}$ of a grain two or three times a day, may do good. Easton's syrup and its homologues, Blaud's pills, and a mixture of the tinctures of gelsemin and nux vomica, as recommended by Bulkley, are the best of our tonics.

When the disease has passed its more acute stage, and has settled down into the chronic and dry, pilocarpine is well

worth a trial. One-sixth of a grain of the nitrate injected subcutaneously once or twice a day, or less often, has proved successful in initiating a favourable change in the course of the complaint. It does this no doubt through its influence on the perspiration, and in consequence of the connection which exists between the coil glands and the subcutaneous fat favouring the nutrition and lubrication of the skin, while it stimulates the secretion of sweat.

The measures suitable for external treatment vary with the form and stage of the disease. In very acute and extensive eczema, with a hot, tender, and exuding surface, dusting powders are almost the sole available application. The salicylic dusting powder, Taylor's cimolite, or a mixture of French chalk and oleate of zinc, or simple rice starch, are among the best. In the folds of the groin and axilla the use of powder bags is desirable and comforting. All flannel must be laid aside, and soft cotton night dresses worn. *Continued rest in bed in all cases of extensive or spreading eczema of the trunk is imperatively required.*

When the acute stage has passed, or if the case has been from the beginning subacute in character, the medicated gelatine preparations will be found of the utmost service. Till these were discovered the management of eczema of the trunk was difficult and unsatisfactory, as the retaining of the various applications in position was nearly impossible. Now we can fix our protective and curative remedy in the exact situation where it is required, certain that it cannot slip, and can conduce to the comfort and recovery of our patient in a manner and to a degree previously unknown.

In the papular or dry scaly forms of eczema of the trunk medicated baths are also of much service. Alkaline ones, composed of carbonate of potass, soda, and borax in the proportions of four, two, and one ounces respectively, or in lesser amount, in thirty gallons of water at blood heat, may be used at bed-time. The addition of a pint of freshly made starch increases the soothing influence of the bath. Bran baths made by adding

the glutinous material obtained from boiling and straining a pound or two of bran to the water of the warm bath are particularly demulcent.

We have also in Lassar's paste an application which admits of its being used to the general surface, without greasing the clothes, and the "oleo-calcareous" lotion will be found easy of application, and in general well-borne.

After the bath the skin should be gently anointed with pure vaseline, or the oleum deelina,[1] a pure heavy hydrocarbon oil.

Eczema of the nipple may occur in the unmarried or in females not at the time nursing, as well as during lactation. Some instances of cracked nipples are examples of fissured eczema, but the chief interest which centres round this particular variety is from a degree of resemblance to a superficial epithelioma of the skin, known as "Paget's disease of the nipple." This, like some forms of epithelioma elsewhere, tends to spread for a time more widely than deeply; the surface, though oozing like eczema, has a granular aspect, which looks like the granulations of an ulcer from which a slough has separated, while the margin is well defined. When treatment has been employed, the disease does not yield as an eczema would have done. This variety of epithelioma, which may have its origin in a degenerative change in the epithelial elements of the lactiferous ducts, is a rare one, and its resemblance to true eczema, unless when very superficially examined, would seem to have been exaggerated.

Eczema under the pendulous breasts requires the same treatment as that behind the ear.

Eczema of the breast, while lactation is being carried on, is often a troublesome complaint. It arises, in some cases at least, from due care not having been taken to prepare the nipple for its new duties during pregnancy. Confined and compressed by stays, and shielded sedulously from every breath of air, the nipple, when suddenly called on to act as a mouthpiece for the

[1] See *Practitioner*, June 1885.

infant, is either chapped or fissured, or if the mother is in a state prone to eczema, may become affected by this. Due care should be taken in all first pregnancies at least to develop and harden the nipples, and thus render them less liable to eczematous inflammation. When the disease has appeared, such remedies must be employed as will not injure the child, if suckling be persevered in. After each application of the child, the nipple should be softly dried, and then it may be coated with a paste, such as Unna recommends.

℞ Sacchari albi, Zinci oxidi, Mucilag. acaciæ,
Glycerini, aa. . . . . ʒi.
——M.

It is an advantage to nurse through a breast-glass with india-rubber teat. This keeps the nipple dry and free from the irritating secretions of the child's mouth. When nursing is discontinued, or in women not nursing, the soap treatment suits as a rule admirably, or we may paint with the solution of nitrate of silver in spirit of nitrous ether, and afterwards apply the zinc ichthyol jelly, or the zinc ichthyol salve muslin, secured in place by the zinc jelly. Where there is much itchiness Pick's salicylic soap plaster kept constantly in position is promptly curative.

Eczema of the anus and perineum is probably much more common than any statistics will show. In its slighter forms and in females the suffering caused by it is borne without any complaint made to others, and often it is only when the itching and discomfort have become unendurable that advice is reluctantly taken. The acute phase of the disease is certainly rare, and a gradual and insidious development is the rule. There may be little to be seen save a degree of dryness and harshness of the skin, or there may be decided thickening and fissures productive of much pain. The skin presents a white soddened aspect, and if there are no piles, there is a purplish congestion of the mucous membrane of the rectum. From the anus it extends to

the perineum. The itching is often intense, and always present more or less. It is often an intractable form, for the perspiration is normally secreted abundantly in this locality, and when eczema is present, it, with the sebaceous material, turns readily rancid, and further irritates the inflamed part, frequently disturbed by defecation and the contact of excrementitious substances.

The disease is met with in the sedentary, in literary and business men, and from its harassing character it communicates an anxious and haggard expression to the face. But it is also encountered in those whose occupations involve a considerable degree of exercise, though in the latter it is usually more manageable. The most frequent concomitant of this form is constipation, and constipation of old standing. Though there may be in some cases a daily movement of the bowels, it is seldom complete. The rectum has become dilated, and the lower hæmorrhoidal veins tortuous and distended—varicose in fact. The slow current of blood causes itching, and the eczema may be secondary, as a result of scratching. The relation of eczema ani to pruritus ani, in which the objective symptoms are certainly secondary, is not always by any means clear; ascarides and scabies are sometimes causes, though the latter is not limited to this region.

To cure such cases, the first indication is to restore the due and sufficient action of the bowels. Bulkley deservedly gives the first place as a laxative to a mixture of equal parts of cream of tartar and sulphur, of which sufficient, usually a teaspoonful, is to be taken at night to procure a comfortable evacuation next day. The fluid extract of cascara, or cascara cordial, comes very near this in value, and so do pills composed of one grain of the extract of Barbadoes aloes, half a grain of dried sulphate of iron, two grains of extract of taraxacum, and one and a half of extract of hyoscyamus. Yet all these must be simply regarded as means to an end,—the gradual restoration of the lost contractile power of the lower bowel. It is wonderful what may be accomplished

in this respect, if faulty habits as to food, exercise, and punctual attention to the calls of nature be amended. But as the sluggish state of the gut has been the result of years of neglect, the cure takes much time and much patience. The cure of piles, external or internal, of fissure, and the effectual destruction of the ascarides, when any of these are present, demand attention.

For the eczema itself, the use of very hot water, followed by an ointment, is commonly the mode of treatment which gives most relief. Sitting over a basin or bidet containing some very hot water, the parts are to be fomented for a few minutes by means of a large piece of soft cotton cloth dipped in the water, then cautiously dried without friction, and the ointment applied. This may be soothing, as the salicylic and carbonate of zinc, slightly stimulant, when a drachm of the unguentum picis is added to each ounce, or Ihle's resorcin paste, or one drachm of chloral-camphor added to the first mentioned. All except the two last should be first spread on thin muslin, cut to a suitable size, one strip being placed on each side well up to the anus, and between, a small thin flake of cotton wool. This separates the surfaces. The ointment should, if at all possible, be kept in this way continuously in apposition to the parts; but if from any cause this is difficult during the day, the skin should be dusted with cimolite, or oleate of zinc and French chalk, and a piece of cotton wool inserted between the nates up to the anus. In sitting, a hard seat, so that the weight is borne by the tubera ischii, should be used. When a cure has been effected great local cleanliness must be observed to prevent a recurrence, and in carrying this out the menthol soap mentioned under pruritus will be found a useful accessory, as checking the inclination to scratch.

Eczema of the genital organs causes much discomfort while it lasts, but is less intractable than that affecting the anus. In the male the scrotum, in the female the vulva, are the parts chiefly implicated. The scrotum is swollen in the early stages,

and a glutinous serum oozes from the surface. This causes a heavy unpleasant odour. When the disease has lasted some time, the skin becomes much thickened, the natural lines and furrows are deepened, and the appearance presented is that of a reddened, dry, and rough surface covered with numerous scales. The condition may be described as that of eczema rubrum.

From the scrotum an advance may be made to the inner surface of the thigh, either continuously, or a patch may be formed where the scrotum presses in dressing, usually then on the left side. This may be purely an eczema, or there may be ingrafted on it the parasite of tinea tonsurans, constituting eczema marginatum. When this is the case the name well defines the disease. There are the characters of an eczema, but the extreme edge is distinctly defined as a narrow red line, in general more or less crescentic in outline. The included area is paler than the margin, while in simple eczema the edge fades off almost imperceptibly. The parasite is not always as easily found. Some French and German authors have described a complaint which they call erythrasma, which apparently differs little from eczema marginatum. The fungus is said to be more delicate and smaller, but individual differences in this respect are common, and it seems a pity to add another confusing term. A dry form of syphilide may resemble eczema scroti, but in it there is an arrangement of flat sharply defined papules towards the periphery; and there are other symptoms of the constitutional disease.

In females the labia majora are principally affected, and in the acute stage are much swollen, hot, and tender; and when the disease has become chronic, there may be a hypertrophic condition of the parts, the surface being rough, scaly, and cracked. At times there seems little more than pruritus, but there is usually even then a history of eczema elsewhere, and the pruritus may be the starting-point of an eczema. The itching is most troublesome, and from the peculiar sensitiveness of the parts assumes at times formidable proportions.

It is oftenest met with in well-nourished, even corpulent persons; but the causes may be discovered in other cases in connection with various uterine ailments. Leucorrhœa is present in some degree, and the urine should always be examined for sugar, an unsuspected cause of itchiness being diabetes. Pediculi should also be sought for, more particularly when the eczema spreads over the mons veneris, and in males at least it is worth remembering that scabies locates itself on the penis.

A cause of eczema of the scrotum is to be found in excessive sweating, when due measures are not at once employed to cleanse the parts. A friend, fond of lawn tennis, once remarked to me that an eczema of the scrotum was apt to be set up unless he washed the parts at once after the game was over. He had a skin which was rather fine, and though in excellent health, perspired profusely when exerting himself. From the abundance of the glandular supply to the skin of those parts, the sweat contains much fatty matter, and this, unless removed, becomes rancid from the heat, moisture, and the deposition of micro-organisms, and scalds the skin.

In the local treatment of both sexes great benefit is experienced from alkaline or bran warm hip baths, followed by a mild ointment. The situation is not well suited for stimulant applications, and more advantage is gained by gentle than active measures. The scrotum should be suspended, yet kept cool. For the female genitals, painting with the nitrate of silver solution affords most relief. If there is glycosuria, the internal administration of codeia, with due regulation of diet, should be combined with protective ointments and great cleanliness. The leucorrhœa must be treated as to its cause, but injections of carbolic acid—a drachm to the pint—are most generally useful. When the eczema extends down the inner side of the thigh, cotton drawers should be worn night and day, and means should be taken by slinging the hands to prevent the parts being scratched during sleep, as much harm may thus be done involun-

tarily. A gentleman showed me an ingenious and effectual arrangement he had devised for this purpose, consisting of cords passed over the shoulders and attached to a pair of garters, which he buckled round the wrists. In this way he completely baffled all efforts to scratch involuntarily during sleep.

In many cases Ihle's paste acts like magic. After bathing with the hot water and drying the parts, they are carefully smeared over with the paste, and then the spaces between the penis and scrotum, and the latter and the thighs, packed with cotton wool, either the absorbent or the salicylic. Over this a pair of bathing drawers are worn.

During the day one of Unna's suspensory bandages, the principle of which is to support the parts without any perineal strap, by crossing bands of elastic, should be worn. It will be found to afford far more comfort than most of the ordinary suspenders.[1] When there is intense leathery infiltration resorcin compresses will remove this in many cases satisfactorily.

℞ Resorcini,
Glycerini, aa. . . . 5·0
Sp. vini rect. . . . 90·0

This when used is mixed with four times as much water. Absorbent cotton wool soaked in it is employed to envelop the scrotum, and maintained in place by means of a bag of oiled-silk. But the improvement so obtained only reaches a certain point and then becomes stationary. Hence such must be supplemented by the employment of other measures, as the use of the ung. vaselini plumbicum, followed by Ihle's paste.

The measures necessary for dealing satisfactorily with eczema marginatum are detailed under the head of ringworm. The eczema of the inner surface of the thighs, when chronic, is much benefited by painting with tincture of iodine, which sets up a sufficient degree of irritation to aid in dispersing the infiltration.

[1] These can be had from Messrs. Duncan, Flockhart, and Co.

For it, too, the gelatine preparations, and subsequently Ihle's paste, are well suited.

It is especially in examples of general eczema, and of eczema of the anus, genital organs, and neighbouring parts, that some of our own and of foreign spas prove useful. The sulphur waters of Harrogate are decidedly influential in such cases.

CHAPTER XX.

ECZEMA AS INFLUENCED BY LOCALITY—*continued.*

III.—Eczema of the Extremities.

We encounter in this group a series of causes in some respects different from those already considered. Besides the effects of exposure which the hands and sometimes the feet have to submit to, there are also those of motion, of occupation, and of vascular states which operate peculiarly, so that in addition to those features, which come into play in all parts, there are here individual and special ones. Some of these act more particularly on the upper, some on the lower limbs.

The arms are seldom affected alone, and more frequently the presence of eczema here is but part of the more widely spread disease. We meet with the papular form most commonly, sometimes as a scattered eruption, or aggregated into patches in the bend of the elbow, or at the margin of the axilla. In the front of the elbow, the skin over a space of several inches may be red and thickened, sometimes dry, at others oozing a little. The same condition of parts is also met with in the ham. But we may also encounter dry, red, rough, slightly scaly areas, not well defined as to their margins, or moist and weeping patches. These may be but few in number, or the whole arm may be pretty well covered. Here, as in the face, we meet with an acute eczema due to exposure to great heat, and washerwomen are liable to have the inner part of the wrist affected, usually in the moist form. The left

wrist suffers less than the right, which is more rubbed when at work.

But the hands are those parts which when attacked are most troublesome to treat, and which sadly interfere with the pursuit of business. We may have the palms, the backs, or the fingers alone or altogether diseased, and the characters are all distinct.

Eczema of the palms, while it may appear in conjunction with the disease elsewhere, is more commonly limited to those parts, or, less often, the soles of the feet are also implicated, or perhaps with greater frequency the tips or points of the fingers participate also. The palms are dry, partly covered with flakes of horny epidermis, which terminate abruptly, partly glazed and red, or fissured in various directions. The complaint commences in the centre of the palm, and slowly and insidiously extends, creeping upwards between the ball of the thumb and that of the little finger towards the wrist. Though sometimes the parched cuticle ends with an abrupt margin, there is more usually a reddish portion of skin beyond, which fades gradually into sound tissue. The hand feels hot to the touch, and itchiness, burning heat, and a sensation of tension are all complained of. The hand, too, cannot be fully flattened out; the natural pliancy being lost, the fingers thus remain more or less flexed. Soaking in water relieves this, to return with increased severity when the hand again becomes dry. Perspiration no longer appears, and this unnatural dryness of the palms precedes the outbreak of eczema there. One hand is usually worse than the other. At times the surface is almost warty in appearance, a horny consistence being assumed over considerable parts of the palm, —eczema verrucosum. On the sole, while the centre may suffer in the same manner as the palm, the disease is often localised along the inner side of the heel and ball of the great toe, from which points it advances outwards.

The diagnosis of such cases is rendered easier by the fact being borne in mind that there are but four diseases which affect

the palms or soles in a manner at all like this. Lichen planus, a rare disease in itself, sometimes attacks the palms. There are then the characteristic flat-topped papules developed, which increase, not by growing larger, but by the production of fresh ones by the side of the old. These tear up the epidermis here and there, and the eruption is dry throughout, but the disease is never limited to the palms alone.

It has been disputed whether psoriasis ever occurs on the palms, unless in conjunction with an outbreak on the scalp or body. In one case I found the disease for long confined to the palms and soles, and, as far as the statement of the patient could be relied on, it began there. Subsequently it appeared in the ordinary situations on the limbs and trunk. It is so rare, however, for this to happen, that an examination of the elbows, and knees, and scalp will enable us to exclude psoriasis.

Syphilis, however, may and does locate itself on the palms, and nowhere else. This is usually years after the primary infection, when there are no other symptoms discoverable, and the history may be unavailable. Like lichen planus, it starts from separate foci, the new deposit advancing from the deeper parts to the surface, tending to heal in the centre, and to spread outwards with a fairly marked line of demarcation. The exact discrimination between cases of eczema of the palm and syphilis is, it must be admitted, at times extremely difficult, and all the more because the diseases may co-exist, and the one even be cured independently of the other. Itching is less prominent in the syphilitic affection, and fissures more rare, and there is sometimes a certain cachectic aspect, which is absent in eczema. In this form of late tissue lesion in the syphilitic one palm only is as a rule affected, in eczema both, though unequally.

The causes of eczema of the palm are extremely obscure. Any direct alliance with gout, as some have supposed, seems as a rule untenable, and anti-arthritic remedies exert no curative effect. Both sexes are nearly equally liable, and those in easy circumstances are perhaps more so than their harder wrought

brethren. The anatomical structure of the skin of the palm and sole is a reason for the intractability of the disease when located there, but scarcely accounts for the selection. We must seek for the origin in an inactivity of the sweat glands there; but how this is brought about we have as yet no evidence to show.

Eczema of the backs of the hands is common, especially in washerwomen, lime workers, and those whose avocations bring the hands much in contact with those substances which soften the horny epidermis. There is a rough uneven surface oozing a thin watery fluid in places, and when the skin is pinched up, there is found to be considerable thickening. Though sometimes seen in the acute form, we much more frequently meet with it in the sub-acute or chronic state. A favourite locality is the triangular space between the metacarpal bones of the thumb and forefinger, extending somewhat over the thumb towards the palm. The whole of the back of the hand, including the dorsum of the fingers in part or entirely, may be affected. Sometimes the disease is limited to the knuckles of several fingers. The itching is considerable, yet the parts are seldom much torn by the nails. This form is often associated with more or less anæmia. Occasionally it extends to the sides of the nails, and these in rare cases become themselves diseased.

The disease known as dysidrosis, which seems the same as cheiro-pompholyx, only less aggravated, is perhaps the only one which can be confounded with eczema of the backs of the hands. There is in it more soreness than itching; the palms are affected as well as the dorsum of the hand, and the hand itself feels clammy and soft. The vesicles, which are deep-seated, closely resemble boiled sago grains implanted in the skin. There is also more or less distinct lowering of the tone of the nervous system.

The tips of the fingers may be the seat of eczema exclusively, and then there may be little more than a hardening and dryness of the epidermis, which tends in consequence to split and crack, and these ragged portions, catching on woollen or silken

articles of dress or of work, cause much annoyance, or, producing decided pain, render any but the most gentle use of the fingers impossible. Though limited at first to the tips, this form may in time creep onwards, and cause similar lesions of the front of the fingers, or the palm.

The sides of the fingers may likewise be affected almost alone. The distribution of this form follows that of the nerve supply with the utmost closeness in some cases. Thus an instance of this occurred in a young woman, whose ring finger on both sides, and the outer side of the middle finger, as far as the end of the first phalanx, were affected with moist eczema, exactly corresponding to the distribution of the ulnar nerve on the back of the hand.

We are rarely asked to treat eczema of the palms till it has lasted some time, the preliminary period, when there is merely a dryness and deficiency of moisture, or the early stage, when the disease has but recently commenced in the centre of the palm, and when it is little more than a degree of roughness,—those in fact when preventive measures or curative treatment would be most satisfactorily carried out, are too often overlooked. Our first procedure must be to get rid of the plates of horny and unhealthy epidermis, to get down to a sounder portion of skin, and on this foundation to assist in building up a more consistent cuticle. For this various modes of treatment have been recommended,—soaking in hot water, the application of caustic potash in varying strengths, or that of papaine. None of these were entirely satisfactory, and I have abandoned them all in favour of the salicylic plaster muslin introduced by Unna, and made by Beiersdorf, Altona.

This consists of muslin spread with a coating of gutta-percha, on which is a fatty basis containing salicylic acid in different proportions from five to fifty per cent. The plaster muslin is thin, beautifully pliant, and adhesive. It thus can be accurately adapted to the palm when cut into narrow strips. The affected part, and for a little distance beyond, is thus covered over with

portions of the plaster muslin, the five per cent or ten per cent being the strengths most commonly indicated. The plaster muslin is worn day and night, the strips being removed once a day, the hand dipped into very hot water, and the loose soddened rolls of white epidermis rubbed off by means of a piece of pumice stone. The hand is then dried, and the plaster muslin reapplied. This process is continued till the palm looks red or deep pink, feels tender, and is soft and pliant: till all trace of the rough scaly condition has disappeared. It is better to persevere with the plaster too long than to discontinue it too soon. It exerts no injurious influence on the skin, acts merely on the epidermis, and on the corium only to the extent of lessening its inflamed condition. When every trace of thickening has thus been got rid of, the part should be dressed with the unguentum vaselini plumbicum, spread on strips of cotton, and kept closely in position. The epidermis having been restored, the palm should be dipped night and morning into water as hot as can be borne, and then smeared with vaseline, or, still better, with equal parts of anhydrous lanoline and lard, or cocoa butter, or with the solution of resorcin one drachm in an ounce of glycerine, merely as much being used as will keep the skin soft. Mittens or gloves should be worn for a time. This method of treatment gives far more satisfactory results than any other, but it must be borne in mind that one course of it does not in all cases serve to cure. The disease has often lasted long before advice is sought, and is apt to fluctuate with the condition of the general health, yet it is most likely that it is the anatomical structure of the part, and its natural firmness and density, which, as sometimes in dry scaly eczema of the scalp in elderly persons, renders the cure imperfect, and the disease to break out anew on apparently slight provocation.

Eczema of the backs of the hands is a much more satisfactory complaint to deal with, though, when due to occupation, it is liable to recur when the employment is resumed, unless the general health has been thoroughly restored.

During the acute stages, the same soothing measures which are found useful in eczema elsewhere are alike advantageous. In all forms of eczema of the hands, washing with soap and water, or even the immersion of the hands in water, except as laid down a few paragraphs back, must be scrupulously refrained from. In particular the boracic starch poultices followed by the oleate of lead ointment (see p. 294). The efficacy of this is increased if the hands can for a time be kept, when dressed with the ointment, enveloped in cotton wool, and over all a muslin bandage. When the condition has become subacute or chronic, we possess in Lassar's paste, with or without salicylic acid, a remedy which is almost a specific. Its desiccative effect, which on the palms would be a drawback, is here its greatest recommendation. The explanation of this must lie in the presence of sebaceous and sweat glands in the one locality, the entire absence of the former in the other. Hence in the palms the lubrication of the skin falls to be maintained by the coil glands alone. I have over and over again seen eczema of the back of the hand heal rapidily and completely under the use of Lassar's paste alone. Its value no doubt is most marked in the milder and more superficial forms; but it is not limited to these. Sometimes more good is done by painting for a time with the zinc ichthyol or the compound salicylic jelly; or, where there is much thickening and itchiness, employing the soap treatment as a preliminary measure, the final cure being accomplished by the paste.

Eczema of the sides of the fingers bears most resemblance to that of the back of the hands, and requires similar treatment. Counter irritation over the median or ulnar nerves in their course may also be resorted to with benefit. It is in this variety of eczema that the internal administration of ichthyol proves of most value. From five to ten drops well diluted should be prescribed night and morning.

Eczema of the tips of the fingers has much in common with that which affects the palms, and the same process, by apply-

ing the salicylic plaster muslin, and the subsequent use of the unguentum vaselini plumbicum, may here prove curative. Pick's salicylic soap plaster suits sometimes even better, followed when the epidermis has been restored by Dr. Wyllie's solution of resorcin one drachm in glycerine one ounce. Advantage is also gained by wearing finger-stalls of vulcanised indiarubber as a means of macerating and softening the epidermis. An ointment made of liquor carbonis detergens ʒi., carbonate of zinc ʒi., and cold cream, with a drachm of lanoline to an ounce, is appropriate in some cases.

In others benefit is obtained by using an ointment made by mixing one drachm of the liquor ferri persulphatis with an ounce of cold cream, to which some more white wax has been added to increase its consistence, as suggested by Bulkley.[1]

In these cases all local means will often fail, unless aided by such measures as change of air, suitable dietetics, and the use of tonics to build up afresh the impaired constitution.

Eczema, as affecting the lower limbs, while a common and annoying variety, is still one fairly manageable, and presenting many interesting and instructive points. The causes of eczema here are often much more distinctly local than those which operate elsewhere. We must remember that for sixteen hours at least out of the twenty-four the position in which the leg is placed is, in the large majority of persons, a vertical one. When standing or walking the whole limb is vertical; when sitting the leg is so—or, at all events, is placed at an angle which diverges considerably from the horizontal. The column of blood, therefore, returning through the veins to the right side of the heart, presses against the sides of the vessels. The walls of these vessels are reinforced by the aid which they receive from the fasciæ, the tonic contraction of the muscles, and the elasticity of the skin. The return of blood is also assisted by the valves, which are placed here and there in the course of the veins. In persons originally healthy, with firm well-developed

[1] *Eczema and its Management*, p. 222, 1881.

tissues, this support is amply sufficient; but in civilised life there are many factors which militate strongly against the maintenance of a perfect balance of health. There are, for example, defects of occupation. Many individuals, in order to earn their livelihood, have to stand nearly motionless behind a desk or counter. The heart thus receives no aid from the contraction of the muscles of the lower limbs in enabling the return current to be carried on, and while the blood is pumped vigorously down into the limbs, it has to find its way back slowly and with difficulty. This alone might, perhaps, not do great harm; but with the want of muscular exercise, the liver and abdominal organs become sluggish, and there is often pressure from above, as well as impeded action from below. The blood itself becomes thinner, the vascular walls are less efficiently nourished, the muscles are flabbier, and possess less power of tonic contraction, the skin becomes relaxed, and the veins yield because they are weaker themselves and are less efficiently supported from without. We have thus established a condition known as varicosity, seen often in its most extreme degrees in women who have borne many and large children; but met with in men, in unmarried and sterile women, and even in young girls. The causes I have named may not explain all cases of varicose veins. There may be in some, little exposed to any of these, a tendency to suffer from them, due to some inherent peculiarity in their veins. While, then, the tortuous, dark blue, or almost blackish cords which we see on the inner side of the knees, for instance, in such cases, are sources of danger in more ways than one, as being ever liable to phlebitis, to consequent coagula within their lumen, and to thrombus, as well as sources of much uneasiness and positive pain; and besides all this, liable to rupture, and directly endanger life by hæmorrhage, it is the smaller varices—those which form in the course of the lesser vessels—which lead to diseased conditions of the skin, as eczema and ulcer.

In women, about the time of the cessation of menstruation,

there is apt to be an over-fulness of the vascular system, and a degree of paresis of the vasomotor nerves, the result of which is often seen in the face as rosacea. Sluggishness of the circulation follows as a sequence.

What results has been well described by Kaposi. The current of blood being delayed in the venous radicles induces a tickling sensation, for any slight irritation of the skin, if repeated frequently, gives rise in the first instance to a tickling sensation, and then itching. Around the glands of the skin the arrangement of the small vessels is most complex and tortuous, and these plexuses act as species of connecting links between the superior and inferior horizontal net-works of cutaneous vessels. Consequently it is about the hair follicles that the stagnation and the itching are primarily most marked. Small effusions of blood—minute hæmorrhages—occur either in the papillæ or round the hair follicles, and small, hard, prominent papules are produced. Involuntarily, often during sleep, these are torn by the finger nails; for though the changed position has rendered the maintenance of the circulation easier, the dilatation of the vessels is not so speedily recovered from, and the very warmth of the bed itself generates itching.

A question here arises—Why does eczema, when connected with varicose veins, occur so often at the inner and lower part of the leg? No doubt the skin is thin here, and that may be one reason. But the cause has been so well explained in Mr. Hilton's *Lectures on Rest and Pain*, that I cannot do better than quote his words:—"The superficial and deep veins of the leg freely communicate with each other in the neighbourhood of the ankle-joint. The first two inches above that point is the spot where the greatest stress is laid upon these superficial veins. Below that point they freely communicate, and if the blood cannot return by the superficial veins, it can do so by the deep ones, and *vice versâ*. But when you reach the point where that brown patch of skin so often occurs in old persons, above the inner malleolus, the anastomoses are less free, and this

appears to me to be the reason why ulcers (and eczema) from varicose veins occur so frequently about that neighbourhood."

Eczema of the lower limbs occurs either as part of a general outbreak, which involves more or less extensively the whole body, or the disease is local, and is chiefly limited to the space between the ankle and the knee, sometimes stretching over the foot, or being confined to the soles. A patch of eczema may be developed at first in the ham, or just on the inside of the knee, over the side of the tibia, or on the shin,—all situations where the earliest evidences of varices are to be met with. From these points the disease extends in area and in depth. The lower limbs are much exposed to changes of temperature, and their vitality is correspondingly reduced. In predisposed persons, roasting the limbs before a fire may induce it. In this form the limbs swell, the epidermis cracks, and burning and itching sensations are complained of. The œdema is secondary to the eczema and subsides with rest, boracic starch poultices, and afterwards the resorcin-salicylic paste. Those affected with eczema of the legs very generally complain of cold feet, and a general languor of the circulation. The cell and gland structures in the skin of the legs are less actively renewed, effete material tends to accumulate, and, like all worn-out tissue, more readily breaks down. All examples of eczema of the legs which have lasted for some time are accompanied by more or less pigmentation. This is due partly to transudation of the colouring matter of the blood, as a sequence of the slowness of the current; partly to the continued irritation of the skin, the result of scratching indulged in to relieve the itching.

We meet with various varieties of eczema on the legs; the papular form is not so common as on the arms, but the erythematous and the scaly chronic kind are common. It is here, too, that we meet with eczema rubrum in its most fully developed phase. Then the part affected may be raw, red, weeping, and indurated, or the inflamed surface may be pretty thickly covered

with crusts, yellowish or brown, which must be removed before we can see properly the state of the parts below. On the soles the epidermis may be very much hardened and heaped up in thick layers.

Besides these, there is a very annoying form of eczema which occurs between the toes, more particularly the three outer. At first there is little more than itchiness, which comes on after the out-of-door boots or shoes are taken off at night, or, less frequently, in the morning. It does not give rise to much trouble in the day-time. Those subject to it have, in my experience, been usually between the ages of forty and fifty, and active and cleanly. If allowed to increase, the epidermis peels off in the spaces between the toes, and fissures are apt to form. It tends to recur after being removed by treatment, or having for the time subsided spontaneously.

The diagnosis of eczema of the legs is not attended with much difficulty. True prurigo, a rare disease, affects the lower limbs more severely than it does other parts of the body, but the history would enable any mistake to be avoided. In association with varicose veins we may have ulcers as well as eczema, and these need to be discriminated from ulcers due to syphilis. The latter are more numerous, are apt to be situated on the posterior and upper parts of the leg, rather than the anterior and inferior, as the varicose. Syphilitic ulcers also are roundish, and look as if punched out, with a dirty, greyish, evil-smelling floor; their margins are more or less darkly pigmented.

The constitutional treatment of eczema of the legs in no way differs from that of eczema elsewhere, except that diuretic medicines are often specially indicated. It may, however, render the mode of treatment best suited for individual cases and at the various stages more definite, if that pursued in some actual examples be cited. The following presents the disease in its mildest phase.

51. A stout, fair, healthy-looking medical man, aged forty, who walked a good deal in the course of his practice, situated in

a thickly populated part of a large town, came to consult me about the state of his legs. On examining them, there were seen numerous small erythematous spots, some slightly scaly, yet scarcely excoriated. Many had their seats round hairs, and all itched intensely. The skin of the legs was elsewhere smooth, but the limbs were a little puffy. None of the larger superficial veins were varicose, the smaller radicles, the intercommunicating plexuses, and the periglandular networks were alone affected. With exception of some degree of constipation, the health was excellent. Here a lotion of ʒi. of liquor carbonis detergens, ʒii. of glycerine, and ℥viii. of water, was directed to be sponged on twice a day, and a wine-glassful of Hunyadi Janos' water to be taken each morning on rising. He wrote me shortly after that the result had been very satisfactory. The glistening appearance, the œdema, and itching were nearly gone, and I heard subsequently that he was well, and has remained so. There have been at times slight recurrences of itching, which were quite kept in check by those simple means.

The plethoric symptoms to which females at the menopause are subject have been already alluded to. An example of the eczema which is connected with these is worth recording.

52. Miss ——, aged forty-six, was, until three years before I saw her, slight and active,—so much so, indeed, that she had walked thirty-six miles in a day without fatigue. With the cessation of the monthly periods, however, she rapidly put on fat, and then began to be attacked with inflammation of the legs of an erysipelatoid nature, which quite incapacitated her from walking. Even previous to the menopause she had remarked some puffiness of the ankles. When first seen her face looked swollen, and had an erythematous or rosaceous flush upon it, which also extended over the upper part of the chest; she seemed short of breath, though, with exception of a rather rapid pulse, which exceeded one hundred beats per minute, there was nothing detected wrong with the lungs or heart. The

tongue was slightly coated; the appetite impaired; bowels, though regular, inclined to looseness at times; some backache, but urine normal and plentiful. Both legs were œdematous, the right particularly, which was red, excoriated here and there, and crusted over with thin laminæ and scales; the left had red, bossy-looking, and somewhat elevated patches, which reminded one of erythema nodosum, scattered here and there between the knee and ankle.

She was directed to take a mixture containing digitalis, squill, and nitrous ether, to have the legs bandaged with Martin's solid rubber bandages, and a calamine lotion applied to the face. Under this treatment the face soon assumed a natural appearance, and the œdema of the legs was lessened, but the skin first became smooth and glossy, then red and tender, and finally bullæ, with easily lacerable walls, formed. Those latter were accompanied with much pain. A flannel roller was now applied to the right leg, and a cotton bandage to the left, with the india-rubber one over. The plan adopted for the left was found to suit admirably, and that leg gradually assumed a completely normal aspect; but even with the bandage beneath, cotton having been substituted for flannel, the indiarubber regularly caused bullæ to show themselves on the right leg, so it was discontinued, and in place of this the blebs were dressed with unguentum vaselini plumbicum spread on muslin, kept in place by a bandage. When these had become healed, a simple cotton roller was used, the legs being dusted with French chalk, and Fellows' syrup of the hypophosphites substituted for the digitalis mixture. Finally the skin was hardened by sponging with a lotion consisting of liquor carbonis detergens, glycerine, and brandy, and at the termination of two months the legs were perfectly well. Since then some slight threatenings of a recurrence have occurred from time to time. These gradually became rarer, and latterly ceased. She remained well for some years but died eventually of uterine cancer.

Some of the most troublesome forms of eczema when affect-

ing the legs are those when the disease is limited to a small area,—occurs, so to speak, in patches.

53. Dr. Littlejohn sent a man to see me at the Royal Dispensary, who had two small patches of chronic eczema situated just below the right knee, on its inner side, at a spot where the veins are often obscurely varicose. The man was about thirty-five, fairly healthy, and employed much out of doors. He had been taking iodide of potassium for some time, and without my knowledge continued it. The patches looked so dry and in such a chronic state, that I thought I might venture to try the soap treatment of Hebra. Instead of producing only moderate reaction, however, this set up at once acute inflammation, and was discontinued. I soon found that the treatment which suited best was one strongly recommended by Dr. Bulkley of New York, viz., sopping the parts well with black wash, and then, when this had dried a little, applying an ointment made by mixing ʒi. of oxide of zinc with ʒi. of cold cream.

Still, though improvement took place, the man did not get well, and it was only then discovered that he had continued all the time the iodide of potass, which had been prescribed for him before he came to the Royal Dispensary. This was at once stopped, and mist. ferri comp. substituted in full doses, as he looked anæmic. This latter symptom was very likely due to the iodide of potass, which, taken in cases unsuited for it, acts destructively on the red blood corpuscles. In this way he was, after a time, entirely freed from his eczema.

In some cases of eczema, especially those which attack the foot, we are entirely baffled in our treatment until we render the skin sweet, and alter its condition by antiseptic remedies.

54. An elderly man, who was addicted to chloral drinking, came under my care. He was in various ways out of health. The whole foot and the lower third of the leg on one side was red, fiery red, tender, and itchy in a remarkable degree. The disease extended on to the sole, and there was seen a feature sometimes exhibited by eczema when affecting the latter situa-

tion,—the anterior margin of the eruption near the toes, instead of fading somewhat gradually, was sharply defined. A line of demarcation separated the sound from the diseased skin. This arises from the thickness of the horny layer here, so that the inflammation of the rete mucosum and corium is not visible through it, and does not make itself manifest externally till it has become so decided as to cause shedding of the epidermis.

It was plainly a case for soothing remedies, and accordingly the foot and leg were enveloped in unguentum vaselini plumbicum spread on strips of muslin and bandaged. He was persuaded to give up the chloral. A certain degree of improvement took place under this, then progress ceased, and there was retrogression. Not only did the inflammation become more extensive, but it was accompanied by a penetrating and offensive odour. To correct this, a saturated solution of boracic acid in water was kept constantly applied on boracic lint, and the odour rapidly ceased. For the lotion an ointment suggested by Dr. Thin was substituted. This is made by dissolving boracic acid in glycerine to saturation, and then adding as much olive oil and white wax as will make a consistent ointment, or at least a thick cream. The foot steadily healed, and when it had been entirely covered with new epidermis for some time, and seemed in a condition to stand it, a spirit lotion, containing a little glycerine and a very little liquor carbonis detergens, was gently pencilled over it. Instead of hardening the skin, as had been expected, the tar set up fresh irritation, and had speedily to be laid aside, and the ointment, which we thought had done its work, resumed for some time longer. In this case the chloral habit may be blamed for the eruption; but the same form arises where no such cause can be in operation, and a similar line of treatment has proved effectual. It is worth noting that even small proportions of tar seem ill borne in such cases.

In grouping together the means particularly useful in eczema of the legs, the gelatine preparations are of the utmost value,

and such suit best the form of eczema rubrum, which has been described as localising itself in the ham and fold of the elbow. When we have cleansed and deodorised the skin by means of boracic starch poultices and a few days' rest in bed, the zinc ichthyol jelly can be at once painted on, covered with a layer of absorbent wool, and the limb then accurately bandaged. In this way the patient can resume work, the dressings being bathed off and renewed daily. When the jelly ceases to produce further improvement, its place can be taken by Ihle's or Lassar's paste, the bandaging being steadily persevered with. Finally, a lotion of liquor carbonis detergens, or of carbolic acid in spirit and glycerine, serves to complete the cure. In the dry indurated forms, where the skin seems attached to the subjacent tissues, Pick's salicylic soap plaster gives admirable results.

55. M. M., fifty, an anxious-looking woman, who had long been a cook, but had now taken a greengrocer's shop, came to consult me for moist eczema of the legs. Her bowels were constipated, and she at one time indulged much in tea. The legs were swollen, and covered with large patches of red moist eczema which itched much. She was directed to remain in bed for four days, and poultice with boracic starch poultices. Then the zinc ichthyol jelly was applied and the legs bandaged, while a mixture of sulphate of magnesia, sulphate of iron, and dilute sulphuric acid was prescribed in doses sufficient to act gently on the bowels. She was not seen again for six weeks, and then the legs were quite well.

When the epidermis of the feet has become very much hardened, we may employ the salicylic plaster muslin, as in the parallel case of the hands, or adopt a plan which we owe to Dr. Bulkley. This consists in sewing pieces of oiled silk, cut so as to fit the affected part, into the inside of the stockings. This is worn continuously; a fresh pair must be put on at night, the other being turned out to become dry. With this treatment may be combined free dusting with powdered boracic acid, or the salicylic and talc powder. The dry condition of the sole, if

limited, may result merely in fissures; these latter can be cured by placing over each a film of salicylic wool, and painting this with collodium flexile, while the sole itself is coated with Ihle's paste.

Eczema palmaris will be found admirably portrayed in Wilson's *Portraits*, Plate D. This when compared with Plate XVII. of the *Sydenham Society's Atlas*, representing psoriasis, and Plates W K and A I of Wilson, exhibiting syphilis in the same locality, will demonstrate the differences which exist.

Eczema of the back of the hand is well shown in Wilson, Plate G; and the vesicular form, which attacks the sides of the fingers, in Plate X.

Eczema rubrum of the leg is depicted in Duhring, Plate H H; and *Sydenham Society's Atlas*, Plate XVI.

CHAPTER XXI.

GENERAL EXFOLIATIVE DERMATITIS; INCLUDING ITS BULLOUS FORMS.

Writers have from time to time described, under the appellations "pityriasis rubra" and "dermatitis exfoliativa," cases characterised mainly by intense redness of the skin, sometimes with, at others without, a degree of thickening, and more or less cuticular desquamation in the form of flakes or fine bran-like dust. A peculiar feature in all these cases was that while the disease began in one limited portion of the body, it steadily and rapidly extended till the whole or greater part became affected. This tendency to encroach on neighbouring areas till the entire cutaneous surface was involved was the first prominent characteristic of such cases.

The persistent exfoliation of epidermic flakes was the second. These were in the earlier recorded instances thin, dry, filmy, and leaf-like, but Liveing,[1] on careful microscopic examination, detected in several cases traces of dried exudation on the under surface of the scales, and considers the slight exudation which occurs between the layers of cuticle as one of the chief causes of their very rapid exfoliation. This observation of Liveing's serves to connect with these dry forms one in which, with the same spreading tendency, there precedes the separation of the flakes, the formation of imperfect bullæ. There is, indeed, strong reason to believe that the disease named pemphigus foliaceus can be very suitably included in the same group,

[1] *Handbook on the Diagnosis of Skin Diseases*, p. 99.

and again when this is traced back, the link connecting it with pemphigus vulgaris is sometimes at least to be traced. We recognise a papular, a scaly, and a moist exuding eczema, and there is even less reason for objecting to an exfoliative dermatitis, which in some instances may commence as congestive patches from which there separate dry flakes, or in others as imperfect bullæ, the walls of which in like manner are cast off and reproduced as leaf-like plates. A case related by Dr. Hardaway fully bears this out. The disease affected a gentleman of sixty-six. It began on the chest, and after persisting for some time in the wet stage of the ailment, characterised by the constant formation of imperfect flaccid blebs, it passed into the dry, and for five years exhibited the features of pityriasis rubra, with progressive weakness and emaciation.[1]

Dr. Buchanan Baxter[2] has transformed chaos into order, and has clearly pointed out the mode in which three varieties of this affection originate. He divides such as follows:—

(1) Exfoliative dermatitis supervening on eczematous affections.
(2) Exfoliative dermatitis supervening on psoriasis.
(3) Exfoliative dermatitis supervening on pemphigus.
(4) Cases of primary exfoliative dermatitis.

Dr. Baxter is of opinion that some of the latter may be examples of lichen planus or ruber, in which the disease had spread till it became universal. Since the recognition of the power of arsenic in curing lichen planus, we seldom now see instances resembling those described in Hebra and Kaposi's work, though Dr. Baxter has related one example of this transformation. Others, again, may be accounted for by the ingestion of certain drugs, but as yet all are not explicable in this way.

The complaint in its dry variety is most common in the old or elderly, but is not confined to any period of life. Elliot[3] has

[1] *Journ. of Cut. and Gen.-Urin. Dis.*, January 1890.
[2] *British Medical Journal*, July 19 and 26, 1879.
[3] *International Journal of the Medical Sciences*, Jan. 1888.

drawn attention to and added to the series of cases related by Ritter v. Rittershain, in which it occurred in infants from the second to the fifth week of life, was usually unaccompanied by fever or systemic disturbance, and proved fatal in nearly fifty per cent. In some of its forms at least it is liable to recur, and though in the earlier stages of the disease the health and strength suffer little, yet, should it become chronic, emaciation and marasmus and internal complications, as diarrhœa, albuminuria, and intermittent febrile attacks, are apt to supervene, or some acute inflammation, as pneumonia, may lead to a fatal termination. Adopting the classification stated above, the following cases will convey the general features of the disease.

(1) *Exfoliative dermatitis supervening on eczematous affections.*—56. A. R., twenty-four, weakly as a child, and subject to eczema of the scalp, was employed on a farm. His present complaint began on his legs, and gradually invaded his whole body. On the 16th March 1878 the entire cutaneous surface was infiltrated, dry, and somewhat resembling a rhinoceros hide. The natural lines and furrows were exaggerated. On the legs the condition was that of a chronic scaly eczema, the skin being covered with thin crusts and branny scales. The hue was dusky everywhere, but on the chest and abdomen he was as dark as a mulatto, and the surface was overlaid with thin papery plates. There was some subcutaneous œdema. Itching was troublesome, and the legs were excoriated. He suffered much from spasmodic asthma, and sibilant râles were audible over the chest. Urine scanty, acid, contained one-seventh of albumen, some urates, but no casts. He was ordered a vapour bath several times a week, and half an ounce of the following mixture thrice a day:—

℞	Liq. ammon. acetat. . . .	℥ii.
	Acid acetic dil.	ʒss.
	Tinct. ferri. perchlor. . . .	℥ss.
	Tinct. digitalis	ʒiiss.
	Aquam ad.	℥viii.

On the 19th his breathing was much easier, and he now presented the phenomenon of unilateral sweating referred to on page 95.

Inunction with vaseline was employed, and under the combined treatment he slowly improved, the albumen disappeared from the urine, and the skin assumed an almost natural aspect as regarded thickness and desquamation, but continued unduly pigmented. He enjoyed fair health for a year or two, then, after a chill, acquired pneumonia, which proved fatal. The dermatitis did not recur.

The albuminuria was a peculiar feature in this case. Liveing met with this in two typical examples which were under his care at the Middlesex Hospital. Any improvement in the condition of the skin coincided in them with a diminution in the amount of albumen discharged. Some might have considered this as a case of eczema pure and simple; the uniformity exhibited in the lesions seems against this. There were no papules or vesicles to be found anywhere; infiltration, dusky redness, pigmentation, and persistent exfoliation comprised all.

I have had an opportunity of seeing the subject of the undernoted case repeatedly during ten years, and though he has had intercurrent attacks of eczema, some of which tended to spread rather extensively, he has had no return of the exfoliative dermatitis.

57. C. B. was aged sixty-eight when I first saw him. He was an active and healthy man till eleven years before, when he met with an accident. The effects of this for a time depressed him, but by degrees he regained cheerfulness and contentment. Till the summer of 1877, when he had an attack of gout in both feet, he had perspired freely on exertion; since then he perspired less, and for some time before his present illness he ceased to perspire at all. In December 1877 his scrotum became itchy, and numerous scales formed on it, and these, accompanied by intense reddening of the surface, spread till the whole body was affected in a similar manner. The desquamation became con-

stant and profuse. He came under my care on the 7th May 1878. The whole cutaneous surface was bright rosy red, removable for a moment on pressure. On the shoulders and back were fine leaf-like scales, which, when stripped off, were as thin as tissue paper, and left a surface beneath red, glossy, dry, and delicate. The lanugo hair scarcely could be said to exist, the nails were dry, furrowed longitudinally, and discoloured. The legs and feet were œdematous. There was great sensitiveness to cold, and a tendency to be easily chilled, but no itching or burning sensations. There was a distinct mitral systolic murmur. He ate well, and in all other respects was healthy. He was kept in bed, citrate of potass and digitalis prescribed, and vaseline applied. As the œdema subsided, peculiar brawny subcutaneous indurations could be felt on the legs, and some formed on the back. These were slowly reabsorbed. By the 1st of July there remained no scales anywhere save on the scalp. The legs were now well kneaded by a professional rubber every day, and the result of the massage was to hasten the disappearance of the œdema. The redness persisted on the abdomen and back, and round the hairs which still existed there occurred a heaping up of epidermic scales, giving rise to the pityriasis pilaris described by Dr. Tilbury Fox in such cases.[1] For some time moderate doses of the tincture of the perchloride of iron had been added to the digitalis. He now went to Harrogate, where the sulphur baths, which he took under Dr. Myrtle's directions, completed his cure.

(2) *Exfoliative Dermatitis supervening on Psoriasis.*—Two examples of this variety will be found under psoriasis, Nos. 64 and 66. The following is a less well-marked instance, but illustrates the recurring character of the complaint in some cases.

58. T. S., twenty-eight, policeman, was sent to me at the R. P. D. by Dr. Littlejohn on 16th January 1879. He was a stout, well-built man, with reddish fair hair, who denied and

[1] *Skin Diseases*, Third Edition, p. 254.

bore no evidence of having had syphilis. Three years before after a chill, he had an attack of a similar nature to his present one, which lasted four months. Three weeks since he shivered, and then noticed that his knees and elbows were red, somewhat itchy, while the skin there seemed too tight. The redness spread rapidly over the limbs and trunk, while the epidermis kept peeling off. There never was any moisture. The arms, and legs as far as the ankles, and the trunk, are vividly red, covered with thin, papery, yellowish-white flakes, easily removable, and leaving a dry red surface. The scales are constantly formed and cast off. The legs are rather œdematous; elsewhere there is no infiltration of the skin. The hands and feet are not yet invaded, and there is in front of each shoulder an unaffected area of skin. The margin of the advancing disease here shows a series of crescents, as if progress had been made by the coalescence of circular patches. The scalp is scaly. He was very sensitive to cold or lowered temperature; temperature 98°, pulse 78. Urine highly acid; no albumen; deposits urates. He was treated by rest in bed, diuretics of acetate of potass, digitalis, and nitrous ether, warm baths, and vaseline inunction. He was admitted under Professor Maclagan's care into the Royal Infirmary on the 24th January, and treated with the wet pack for half an hour night and morning, while the diuretic medicine was replaced by half-drachm doses of tincture of iron. In the beginning of February the arms showed thick white scales on an infiltrated base, without any intervening unaffected skin. He was discharged well on the 11th March, the same treatment having been pursued throughout.

(3) *Exfoliative Dermatitis supervening on Pemphigus.*—The conception formed of pemphigus is that of a disease characterised by the successive production of bullæ, but this on closer examination will be found to be misleading. Blebs are met with under many circumstances as accidental rather than essential features. They are seen in erythema multiforme, in urticaria, in dermatitis herpetiformis, in erysipelas, syphilis, and cheiro-

pompholyx, in the course of scabies, from the ingestion of certain drugs, as iodide of potassium, and from the application externally of irritants as cantharides, the mineral acids, and mezereon, used either purposely or accidentally. All such, and some other causes of bullæ, must be excluded ere we can decide that the case before us is to be regarded as pemphigus. It would appear that in some states of the general health, the precise nature of which, however, has so far eluded determination, the nerve control over the vessels becomes disturbed, with the result that fluid is poured out in excess within limited areas of skin, and the cohesion of the epidermic cells being overcome, a large vesicle or bleb forms on the surface. Commonly there is in the first instance a hyperæmic spot or patch on which the bleb rises, the hyperæmia persisting as an areola as the latter enlarges. At other times, or in other situations, the bulla springs directly from apparently normal skin. The blebs vary from a pea to a marble in size, or even larger should more than one coalesce. Their contents are clear straw-coloured, becoming milky as the leucocytes undergo fatty change, or are red or blackish purple from admixture with blood. The fluid contained is alkaline or neutral in reaction, so long at least as it has not become purulent, when it may be acid. The walls are usually tense, and the bleb fully distended, and it seldom ruptures spontaneously in that kind of pemphigus to which the term *vulgaris*, as being the commoner, has been attached.

Both in number and mode of evolution there are many varieties. Thus the disease is sometimes limited to the production of a single bleb, which in a couple of days ruptures, and leaves a painful excoriation, to be shortly covered with a thin greyish scab. Then a second bulla appears near the first, runs a similar course, and may in turn be succeeded by others. Or in other cases successive crops of blebs continue to come out for a time, then a period of latency may intervene, and a fresh eruption subsequently take place, thus protracting the duration over months. They appear irregularly over the body, perhaps

chiefly on the limbs, but they may form also on the mucous membrane of the mouth or vagina, and may show themselves on the male genitals. In the latter situation they are apt to be mistaken for syphilis, as the excoriations which succeed resemble mucous patches.

The contents of the bullæ dry up, forming with the collapsed walls variously coloured crusts, which cover an abrasion, not, unless rarely, an ulcer. A stain, either reddish purple or brownish, frequently marks for a time where a bleb has been. In the exceptional variety described and figured by Neumann, which he calls *pemphigus vegetans*, ulcers and fungating growths develop in the floor of the bullæ, the mouth and pharynx are affected primarily, and all end fatally. It is but rarely that any marked subjective sensations accompany pemphigus; sometimes, however, tension, pain, or burning in the skin are complained of, and now and then itching of a severe and extreme character is associated with it. While fever or other constitutional disturbance is not pronounced in adults, such may be present in some instances, and particularly in the case of children.

Pemphigus is usually a chronic form of ailment, but in adults occasionally, and more frequently in the young, an acute species occurs. In infants it would seem at times to exhibit contagious properties, and the opinion has been expressed that impetigo contagiosa is but an abortive contagious pemphigus.

But there is a variety of pemphigus, described first by Cazenave, called *pemphigus foliaceus*, in which the bullæ are flaccid and imperfect, and which tends to spread till it affects the whole body and ends fatally, though sometimes after lasting a considerable time. The fresh crops of eruption succeed each other so rapidly that the epidermis has not time to become condensed into a uniform covering, and thus, instead of new blebs, fluid is poured out which dries into crusts, compared by Cazenave to flaky pie-crust. The skin in appearance somewhat

resembles a scald, or may, in some examples, be mistaken for an eczema. The odour exhaled is usually extremely disagreeable, clinging to the atmosphere of an apartment for a long time. Pemphigus foliaceus may present these features from the first, being originally confined to a restricted area—a common situation is the front of the chest—from whence it spreads further and further over the skin, the parts earliest affected remaining unhealed; or it may develop out of a pemphigus vulgaris by a process of degeneration. Thus in a child, aged two years and nine months, brought to the Royal Infirmary, wasted, weakly, and anæmic, the originally tense bullæ were being gradually replaced by flaccid ones, implicating the skin pretty extensively, and exhaling a sour nauseous odour. Complete cure followed an improved dietary in the Royal Hospital for Sick Children, iron and arsenic in full doses internally, and linimentum calcis with carbolic acid locally.

Pemphigus in any form is rare. While in some instances nervous prostration seems to precede the attack, this is not universal, for the health of some of those affected appears good, and only breaks down if the disease assumes a very extensive or foliaceus type. A hereditary tendency is not usually traceable. Local injuries may determine the evolution of the bullæ, whether such stand in a direct causal relation is less certain. Wilson mentions a case where a servant poisoned her hand with a red paste with which she was cleaning brass. A few days afterwards a crop of bullæ intermingled with ecchymosed spots came out on her wrist and forearm, and continued to trouble her for seven years from time to time. A similar instance came under my own observation. A young man in a country village hurt his wrist, and by the advice of a chemist applied a plaster, one ingredient of which was cinnabar. An eruption of pemphigus appeared near the wrist almost immediately after, and spread over the body, some blebs forming on the genitals, ending fatally in course of three weeks. Burch[1] records a case of acute

[1] *New York Medical Record*, August 4, 1888.

pemphigus terminating fatally on the fourteenth day, after spreading widely, in a man aged nineteen, who had a soft sore five years before; and Allen[1] relates a similar case in a man aged thirty-two, who had a soft sore ten years previously. In both instances the bullæ were well developed, and were accompanied by itching. This raises the question,—May pemphigus, like herpes progenitalis, be an occasional sequela of a chancroid?

The diagnosis of pemphigus is best made, like that of typhoid fever, by exclusion. The bullæ which appear in the course of the diseases enumerated at the outset of this section soon cease to be produced, and are certainly not evolved successively for any length of time. An inquiry as to any drugs which the patient may have been taking will elicit whether iodide of potassium is to blame; while the reaction of the contents, and the position of the bullæ in accessible situations, may enable us to determine if nitric acid or the acetum cantharidis has been used to produce a feigned pemphigus, as in malingerers and hysterical females. Elliot mentions a case where bullæ preceded by an erythematous rash appeared on three different occasions, within an hour, after doses of five grains of quinine were taken.[2] The pemphigus of the newly born, to which a contagious element attaches, must be distinguished from the bullous syphilide seen in inherited disease. This latter is principally localised on the palms and soles, and is accompanied by marked cachexia, snuffles, fissures of the lips, or mucous patches. Pemphigus foliaceus, when the characters described are attended to, cannot be mistaken.

In the following case, though chloral was given for a considerable time, the eruption which appeared did not resemble that which usually follows its ingestion.

59. A. S., six, a strong healthy boy, who ailed nothing till he took whooping-cough in the early spring of 1879. The cough throughout was of a very severe character, and there was persistent pyrexia. The disease remained unaffected by all ordinary

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, April 1888.
[2] *Ibid.*, September 1888.

remedies. Full doses of morphia indeed allayed it, but occasioned digestive disturbance. Chloral, of which a considerable quantity was taken, afforded temporary relief. After this had been given for fully three weeks, a red flush appeared on the face, and spread. This consisted of irregularly shaped, symmetrical, well-defined, elevated patches, which did not itch, and were not preceded or accompanied by sore throat. The extensor aspects of the extremities were most closely set; the rest of the body more sparsely covered with these; the urine acid, with excess of phosphates. The chloral was discontinued when the rash appeared. The original patches faded to a buff yellow; but on the 30th April the entire surface was red and swollen, and scattered over this were imperfect bullæ, which resembled those seen in pemphigus foliaceus. These burst before they became tense, and the parts so affected looked as if macerated. At the suggestion of Dr. Douglas Maclagan, three grains of quinine were given every four hours and a calamine lotion applied. For some days fresh bullæ came out, then ceased to appear, and the flaky walls peeled off, leaving the skin below normal, though tender. The boy, however, sank from a bronchopneumonia, which developed shortly after the blebs.

With the exception of the child above mentioned, the following is the sole instance of pemphigus foliaceus which I have met with.

60. M. O., twenty-six, came to see me in June 1880. He told me that in March he felt chilly, and nettlerash, as he thought it, appeared on his face. An erythema next showed itself in the shape of red spots, and on these bullæ. Since then the evolution of fresh blebs has been continuous. At Dundee he was treated with large doses of iodide of potassium, under the supposition that he was suffering from syphilis. The drug was pushed, and intense itching and much aggravation of the eruption were occasioned.

When seen there were numerous bullæ scattered over the head, face, arms, and trunk. Some were surrounded with a red

areola. There were also pretty extensively distributed crusts, which had the flaky pie-crust appearance, and there were red stains where former blisters had been. The perspiration had a peculiar acid penetrating odour, which clung to my consulting room for some time. The urine contained no albumen. He admitted having had gonorrhœa, but never chancre, or any previous eruption. He looked jaded and haggard; was then at least a temperate man. I never saw or heard of him again.

(±) *Primary Exfoliative Dermatitis.*—This, as I have already remarked, is a provisional group in the meantime. There is reason to believe that most, if not all, could be accounted for did we possess the clue.

61. T. R., twenty-two, teacher, was a healthy child, and knew of no hereditary tendency to skin eruptions. Thirteen years ago, without any cause he was aware of, some red patches came out on the backs of his hands; these coalesced, and the redness in a month was universal. There was no itchiness save when the skin was hot. Exfoliation succeeded the redness, and assumed such proportions that a whole shovelful of thin flakes could be removed from his bed twice a day. The nails were affected. This attack lasted a year, and in respect of desquamation was the worst he has had. The shedding of cuticle ceased first, the redness persisting long after it was gone. On two parts alone the disease did not disappear,—on the nose, where little dry papules remained, and on the ears. Probably the complaint wore itself out, as he believed the treatment, which consisted of inunction with olive oil, and gradually increased doses of arsenic, did no good.

He continued thus nearly well for nine months; then the disease made a fresh start, spreading from those points where it had lingered, and this it has invariably done on each recurrence, not again making a commencement in a sound area of skin. Five years since his face was painted several times with collodion, and since then, besides scales, impetiginous pustules have

appeared on it. He was treated in 1878 with doses of liquor arsenicalis for six months, the amount being increased till fifteen minims were taken thrice a day. This maximum was administered for three weeks; then he became hot and uncomfortable, the skin affection more annoying, and the scaling greater, while his appetite failed, so that it had in the end to be given up. He obtained most relief from the application of the unguentum diachyli.

I had the privilege of seeing him a number of times in Professor Maclagan's Ward, No. 22, in the Royal Infirmary. His skin, with one or two exceptions, was, over the entire surface, deep scarlet red, somewhat pale perhaps on the thighs. On the outer side of the hands, over the knuckles, and between the fingers the skin was thin, but nearly normal in hue. Except on the thighs, which were merely red, the body was covered with scales, which, when stripped off, left the surface beneath red, dry, and with its transverse markings unusually distinct. There was not much infiltration, yet from want of pliancy the skin could not be easily pinched up, and the subcutaneous fat was diminished. The nails were long, narrow, and claw-like; they grew very quickly, and there was much epidermic accumulation beneath those of the toes. The general health was good; appetite fair; pulse seventy-four to eighty; temperature normal; urine free, no albumen. He did not perspire. Pilocarpine injected subcutaneously only caused sweating on the slightly affected parts, as the hands, feet, and thighs; none on those portions of the body which had been the seat of continuous congestion for years, and it induced sickness. Treatment did no good, and he eventually died in the Longmore Hospital some years after.

62. H. W., fifty-three, for ten years has suffered from asthma and bronchitis, and has had many mustard poultices applied. As a result of these, in his opinion, red patches appeared on his chest some years ago, and became covered with scales, which were continually cast off. Till three months before I first saw

him, in September 1884, the redness and desquamation had remained limited to that locality; but it then began to spread, and has now invaded the greater part of the limbs, part of the trunk, and the face. Nearly everywhere the skin is of a brick-red colour, feels thin and harsh. On the legs the patches resemble more a superficial psoriasis. The skin looks glossy, tense, and red, and here and there scaly. Over the knees and on the sacrum the papillæ are much enlarged, and are covered with dry, white, horny scales, and there the skin feels exactly like a file. The entire surface is dry and unperspiring. The skin itches a little, and desquamates freely. Except from his bronchial troubles, he suffers little in health. Under nightly baths of potassa sulphurata, followed by the inunction of vaseline with two per cent of salicylic acid, the papillary hypertrophy disappeared, the skin became much smoother, and the scaling less, but the redness remained. When last heard of, in January 1885, he had discontinued the baths, and the roughness and scaling were again extending.

The last case I shall relate is an example of the acute form of exfoliative dermatitis. Though chloral was given, the eruption was not due to it; for it has since then been taken by the same person in very large doses on one or two occasions without being followed by any cutaneous manifestations, nor has the dermatitis recurred. He suffered eventually from cancer of the wall of the œsophagus, behind the larynx, which set up so much irritation of the trachea and bronchi as to cause death.

63. A gentleman of business habits, and active, but who at that time lived rather freely as regards alcohol, spent a couple of days in midsummer some years since at a country house near town. The sun was hot, but the wind easterly and chill, and he lay much of the day on the grass under the trees. He was then forty, and had never suffered from syphilis.

Soon after his return home he began to feel pains in his legs and loins, and though still able for work, he took a cab to his

office, a mile and a half off, in place of walking, as was his wont. For some nights before the 10th July he did not sleep soundly. On that day he experienced some difficulty in rising from his seat. A dose of aperient medicine acted well, but he had a restless night, and perspired freely. When he attempted to rise next morning he could not stand. He felt pain in the muscles of the legs, in the shoulders, and the thumb and forefinger of left hand, when he moved especially. Pulse 90; temperature 101·2°. He was treated for gout, with 15 grains of the salicylate of soda and three minims of tincture of colchicum every three hours. On the night of the 14th July he had 20 grains of chloral and 20 of bromide of potass. He fell asleep, but was awakened by involuntary startings of the limbs, which occasioned acute pain. On the 15th the skin of the whole body was swollen, the conjunctivæ injected, while the face was dusky red. Sudden profuse bursts of perspiration came on from time to time. There was some hyperæsthesia. He could not move his legs in bed, but their position was generally altered for him. On the legs and dorsum of the feet large well-defined patches of a vivid red colour had come out. These disappeared on pressure, but at once returned. Temperature—morning, 102·5°; evening, 103·5°. He was seen by Dr. G. W. Balfour in consultation, who confirmed the diagnosis of acute spinal myelitis; and he was now put on 20 grains of iodide and 30 of bromide of potassium every four hours. To this 20 minims of liquor ergotæ were added next day; 40 grains of chloral were given at bedtime. The red blush now spread over the abdomen and chest, and less extensively over the arms and hands, the individual patches having to a considerable degree coalesced. The limbs were now less swollen. The chloral was discontinued on the 18th, and on the 22d the hyperæmia had disappeared, and fine flakes of epidermis were being freely shed. There were still slight involuntary movements of the arms during sleep, and voluntary ones were slow and imperfect. He now steadily improved, and when, some weeks after, his sole complaint was of aching pains in his limbs,

these were permanently relieved by the use night and morning of the constant current from thirty cells.

The morbid anatomy, so far as the skin is concerned, does not throw any light on these cases. In two instances I removed portions of skin, and after hardening, the sections showed some dilatation of the capillaries, and a moderate degree of migration of leucocytes into the meshes of the corium, which were somewhat opened out.

Nor are we any more intimately acquainted with the true nature of the pathology of exfoliative dermatitis. Both Hebra[1] and Hutchinson[2] regard the nervous system as at fault, the former placing the disturbed nutrition to the credit of the vasomotor nerves, the latter suspecting the spinal cord.

There are some features which support these views. One is that in many of the recorded cases there has been a diminution of perspiration antecedent to the dermatitis; and there is also in some a peculiar sensitiveness to cold. These seem due to a failure on the part of the heat-regulating function of the skin, by means of which it oscillates like a delicate balance between dryness and moisture, and thus accommodates itself to all ordinary variations of external temperature; but the persistent congestion and constant exfoliation of the horny layer deranges this, and the skin can no longer suit itself even to minor variations of heat or cold. This must be due to a disturbance of the normal reflexes.

Again, we have the implication of other epidermic structures: the nails are affected, and the hair becomes thin and falls off. In cases of pemphigus, Liveing[3] has noticed that when the disease is on the wane, a general dryness of the skin is observable, and the cuticle often exfoliates even where no bullæ have existed.

Hutchinson regards arsenic as a specific in pemphigus

[1] *Vierteljahresschrift für Dermatologie und Syphilis*, 1877.
[2] *Lectures on Rare Diseases of the Skin.*
[3] *Handbook of Skin Diseases*, Fifth Edition, 1887, p. 111.

vulgaris, and there is little doubt that it is useful in some cases, but it has signally failed in many others. Each example must be treated on its own merits, with respect both to medicine and diet. Locally the blebs should be punctured, and the surface dusted with the salicylic talc powder, or painted with the boracic calamine lotion. Unna has found the application of the following paste to favour the desiccation of recent blebs, and to check their recurrence: ℞ Ol. lini; Liq. calcis; Zinci oxidi; Cretæ prep., aa., M.

In the treatment of the dry forms, and of pemphigus foliaceus, the state of the skin precludes the employment of arsenic. Its injurious effect has been noted in more than one of the selected cases. Hans Hebra gave 400 grains of arsenious acid in one case without effect.

The administration of diuretics, as the acetate of potass, combined with the tincture of digitalis, or of diaphoretics, as antimony internally, or pilocarpine subcutaneously with quinine in solution or pill, in the acute forms and in the earlier stages, followed by full and repeated doses of the tincture of the perchloride of iron in the later, promise well. Kaposi records the cure of one case from the internal administration of carbolic acid, after the failure of all external methods.[1] It was fairly tried in J. R.'s case, without result. In one instance, in which the symptoms very closely resembled those of case 58, and in which baths of starch and potass sulphurata had aggravated the condition, rapid recovery followed the administration of tartrate of antimony in doses of one-eighth of a grain, given thrice a day, at the suggestion of Mr. Hutchinson, combined with the inunction of purified whale oil. Mr. Hutchinson himself records the cure of a severe, though limited, example by the continued exhibition of opium [five to fifteen minims of the Liq. opii. sed.][2] Constant immersion in water maintained at the temperature of the body, proves very comforting in

[1] *Pathologie und Therapie der Hautkrankheiten*, p. 412.
[2] *Archives of Surgery*, October 1890.

pemphigus foliaceus, and has even cured in Hebra's experience; but this method is plainly only applicable to those favourably situated. As some instances spontaneously get well, while others are unaffected by any treatment, it is difficult to ascribe the cure to any particular medication. Dr. Stephen Mackenzie, as the result of a careful study of twenty-one cases,[1] finds the most useful application is the diluted glycerole of lead. Of this and glycerine each an ounce to a pint of water. The patient is swathed from head to foot in bandages of lint steeped in this lotion, a lint mask being used for the head and face. When so enveloped he should lie between blankets, and on a spring or water mattress. The lotion is continued till the scales are removed, and the hyperæmia wholly or greatly gone, then greasy substances should be employed. Vaseline, oleum deelina, or purified whale oil are indeed the most commonly useful applications.

Characteristic representations of exfoliative dermatitis in the dry form will be found in the *Sydenham Society's Atlas*, Plate XXX., and in *Tilbury Fox's Atlas*, Plate XXXVIII.; of the form described as pemphigus foliaceus in the *Sydenham Society's Atlas*, Plate XLVII., in *Fox's Atlas*, Plate XXX., and in *Neumann's Atlas*, Tafel XXIII. Of pemphigus vegetans in *Neumann's Atlas*, Tafel XXII. Of pemphigus vulgaris in the *Sydenham Society's Atlas*, Plate XIII. The bullous eruption from iodide of potassium is represented in the *Sydenham Society's Atlas*, Plate XXXIII., and the bullous syphilide in infants in *Neumann's Atlas*, Tafel LVI., and in Kaposi's *Syphilis der Haut*, Nos. 74 and 75.

[1] *Brit. Journ. of Dermatology*, 1889.

CHAPTER XXII.

PSORIASIS; PITYRIASIS RUBRA PILARIS; PITYRIASIS MACULATA V. ROSEA.

SCOTLAND would seem to afford exceptional opportunities for the study of psoriasis, since, according to McCall Anderson, it occurs in Glasgow in about 7·25 per cent of all skin diseases. My own cases give a proportion of 8·4 per cent, while in New York, according to Bulkley, the percentage is but 4·12, and in Vienna only 2·8. It is a disease which, apart from this, presents many features of interest, while with regard to it the problem of its radical cure is still unsolved. Its symptoms vary with the duration of the eruption, the locality affected, the condition of the patient as to health, and particularly whether tending to plethora or anæmia, and whether treatment has or has not been employed before coming under observation.

There are two situations on which psoriasis may first appear, —about or on the points of the elbows, and underneath the patella; or on the hairy scalp. The latter is only an exceptional starting-point; the former the points of selection *par excellence*. On the elbows and knees the disease may exist for an unlimited space of time, little noted by, perhaps even unknown to, the individual himself. In all persons these situations are naturally peculiarly rough, and the skin is lax and wrinkled into folds. When, however, psoriasis has installed itself there, the skin over a more or less extensive area feels thickened when pinched up, is red at the margin of the patch, and bears over the central portion white, glistening scales, which, when scraped off, assume

somewhat the aspect of frosted silver. The scales are not very firmly adherent, and on being removed, the subjacent surface, if scratched with the nail or curette, tends readily to bleed a little from small punctiform apertures. The reddened patches themselves are but slightly elevated above the surrounding skin, from which they are pretty sharply defined; but the scales may become heaped one over another till the accumulated mass assumes considerable proportions. The pile of scales is greater on the knee than the elbow, probably because in the last-mentioned part there is more friction. The surface is essentially dry, the only exceptions to this being when irritant applications have been made use of, or when fissures have formed. Psoriasis in those primary situations seldom itches,—another reason why its presence is overlooked.

While the appearances described are the earliest from a historical point of view in a case of psoriasis, they do not represent the mode in which the disease first manifests itself. This must be studied in a case where, from being localised, the complaint tends to become more generally distributed. Why psoriasis should continue limited to one or two spots on the body surface, and then all of a sudden develop a capacity for extension, has never been explained. In some cases, it is true, we believe we can recognise a seasonal type. The start is made in autumn or in spring. But this is not invariable. In others some change in diet, or some lowering influence, as pregnancy or lactation, bears an apparent relation to this. Scarlet fever may determine its first onset or recurrence, the congestion and subsequent desquamation acting as local exciting causes. However induced, the patient notices that on the limbs, especially on their extensor aspects, on the chest or back, and usually on parts covered by the clothes, minute red spots come out. These are scarcely larger than a pin's-head, but soon increase, and as they grow, they become covered over the greater part of their surface with a white scale, which grows thicker as the spot becomes larger. Beyond the scale there is always a red margin. The

extension is usually uniform in all directions, so that the patch preserves a circular form. When it has reached the size of a florin it is tolerably thick, and the scales may consist of many layers, so much so, indeed, that the general aspect may be that of a mass of mortar attached to a portion of thickened reddened skin.

While the patch now goes on enlarging, the centre may undergo a process of involution. The scales fall off, and the part reassumes its normal condition, or is a little redder than it should be. There is now an extending circle covered with scales. Should this circle encounter another similar one in its progress, retrogression takes place at the points of contact, and gyrate lines are produced out of the intersecting circles. At last, after weeks or months, the process comes to a standstill, or a spontaneous cure takes place, the disease entirely disappearing, or, as is much more frequently the case, fading on most situations, but persisting after a chronic inactive fashion on its spots of predilection, the knees or elbows, or the scalp, or perhaps here and there over the body.

Unless the disease spreads rapidly, and in particular when the lesions present an angry and inflamed appearance, there is little complaint of any subjective sensations; but when numerous spots are quickly developed, the itching accompanying them may be severe.

On the head, if the hair is plentiful, the masses of scales may exist nearly unnoticed. From the abundance of sebaceous secretion, and the accumulation of dust, their colour is yellowish or brownish. The disease sometimes creeps on to the forehead as a well-defined red line. The hair seldom falls off, but may be deficient in lustre, though occasional instances are seen where baldness apparently results from it. Most of these in my experience have been young men in whom premature thinning of the hair might have occurred quite independently of the psoriasis.

When this disease attacks the scalp in those already bald,

the patches seldom bear scales; but the condition then is rather that of dry, red, erythematous patches, with fairly well-defined margin. In such cases we can usually find characteristic spots elsewhere.

It may creep down over the hairy parts of the face in men. Thus it may invade the beard and whiskers, the eyebrows, and even the eyelashes. Such an extension is rare. In the axillæ and on the pubes the scales are not so silvery as elsewhere, due either to the co-existence of seborrhœa or to mycotic changes.

It is not uncommon on the backs of the hands, but seldom affects the palms or soles—never, it is said, independently of other parts. In one instance the disease began, if the patient herself can be credited, in this locality, and was, when she was first seen, entirely confined to the hands and feet.

64. M. G., sixty-six, came to the Royal Dispensary on 30th August 1879. She looked a fairly healthy woman, and has had nine children, of whom only two survive, both in good health. Has had three miscarriages. One child, it was stated, had had an eruption on its nates soon after birth, but there was some considerable doubt as to this being of a specific nature. She herself had no skin affection till four years ago. Then there appeared on the centre of both palms a small red scaly spot, which continued to spread. The soles of the feet were similarly affected. When seen, the whole palmar surface of both hands, as also of the fingers, and extending somewhat round to the back, is now of a deep red, raw flesh colour, smooth, glazed, and infiltrated, and with some deep fissures. A thin, flaky, dry cuticle forms on this, and scales off. The surface is never moist. The nails are discoloured and furrowed, and break easily. The hands do not itch, but they become hot and painful. The margins of the affected area are well defined, especially at the wrist, where the disease extends a little beyond the flexure. The condition of the feet was similar, but there was no eruption elsewhere, or on the usual psoriasis situations. Neither an anti-syphilitic treatment nor any of the remedies employed for

psoriasis did any good. She was treated with papaine, amongst other remedies, and while it certainly softened the scales, this merely made the hands more painful and tender. Till July 1881 there was little alteration; then the disease spread; spots of ordinary psoriasis came out on the forearm and elbow, and these extended and coalesced into large, red, dry, scaly patches. During 1882 and 1883 the condition fluctuated, but never became well. In the spring of 1885, however, the skin improved, and the hands became quite well, and the nails assumed an absolutely healthy and smooth gloss. In the autumn the psoriasis recurred, and in December was in the same state as before. The hands dry, hot, uniformly red, and fissured in parts, and flaking off in thin epidermic plates. The distal half of each nail was smooth and healthy, the proximal deeply cross-furrowed and discoloured. The arms were red, and fine branny filmy scales were being constantly exfoliated. The skin there was not infiltrated, and in all respects corresponded to that of pityriasis rubra. The legs were in a still worse state. The margins of the reddened areas faded into that of the skin above almost imperceptibly, quite without any marked line of demarcation. Her general health was good. Sulphur baths and inunction with oleum deelina were ordered. She still firmly asserted that, till the eruption came on the palms, there had never been a spot on any other part of the body, and in this she distinctly included the knees and elbows.

In 1887 she again came under my notice. The eruption had become quite universal. The skin all over the body was deep crimson red, smooth, and constantly exfoliating thin papery flakes. She looked worn and haggard, and her condition was now that of general exfoliative dermatitis in its most marked form. Two years later she had very considerably improved, and the disease was in a quiescent state when seen. This was certainly a case of psoriasis and not as Brocq and C. Boeck[1] think, an instance of pityriasis rubra pilaris.

[1] *Monatshefte für prakt. Derm.*, No. 3, 1889.

There is a still more uncommon form of psoriasis affecting the palms and soles, in which papillary hypertrophy occurs, of which the following is a good example.

65. M. B., aged seventy-three. The disease began in this lady twenty years ago. When seen she had patches of psoriasis with silvery scales on knees and elbows; but the hands and feet presented the most remarkable appearance. The skin of the hands, both on the palms and back, was dry, rough, thickened, and covered with scales. There was no distinct line of demarcation above the wrist, as in the previous case; but the disease extended up the forearm as thickened and erythematous patches, with some scaling. The soles of the feet resembled nothing so much as coarse yellowish-white plush, due to papillary and epidermic hypertrophy. On the left foot the diseased portion was sharply defined all round just above the ankle, the red margin of the psoriasis being strongly contrasted against the sound skin higher up. On the right the disease extended higher, and merged gradually in a large patch of non-scaly psoriasis, which extended up the leg. In this case the treatment which did most good was the application of boracic acid in various forms, and the persistent administration of arsenious acid in small doses. A year afterwards she was quite well, and six months later there was no recurrence. But a year later she was seen again. The hands had remained well, but the same plush-like or shagreen appearance had reappeared on the soles. It was quite removed by Unna's ten per cent salicylic plaster muslin.

This verrucous transformation of patches of psoriasis is one not to be regarded lightly, since Dr. White[1] has recorded three cases where an epitheliomatous degeneration took place in patches of psoriasis, which had been long subjected to this warty transformation. Such cases must therefore be watched; and it is fortunate that we now possess in salicylic acid an agent so powerful in removing these warty formations. When we come

[1] *American Journal of Medical Science*, January 1885.

to study the pathology of psoriasis, we will wonder why such changes occur so seldom.

Though psoriasis is commonly accompanied by excellent general health, and indeed is rather to be regarded *prima facie* as the evidence of a robust frame, and is never *per se* fatal, there is a form, rare in the extreme, which, as contrasted with the usual manifestation of the disease, might almost be called malignant. In this variety the integument, almost as a whole, is invaded, though even at its worst some small portions escape. This peculiar variety only manifests itself after psoriasis has existed for a long time.

66. M. C., sixty-five. Long before she came under my care this lady had suffered from a skin disease, which was called by some psoriasis, by some eczema,[1] but which had the peculiarity of beginning as dry red spots, which rapidly extended and coalesced over large areas, and cast off abundance of flaky scales, the surface beneath being of intense redness. On some parts, as the feet and the hands, the accumulated scales grew moist and the mass decomposed and became offensive, and excoriated and irritated the skin below, causing much pain. This feature, no doubt, led to its being called an eczema. The condition of the skin varied; at times the scaling lessened so much as to leave the surface smooth and almost normal in appearance. Then a fresh outburst of scaly spots would appear, and rapidly extend. There was some aortic disease, and the joints were crippled, and the limbs distorted with rheumatoid arthritis. The attacks became in course of many months more frequent, and all but universal, and she died quietly one night in bed. In her case the resemblance was of the closest with exfoliative dermatitis, though the state developed out of a psoriasis. Local remedies somewhat alleviated the sufferings she experienced, but no internal medication was of any avail. Arsenic did no good whatever.

The masses of scales in psoriasis sometimes become piled up

[1] Dr. Spender, *Practitioner*, 1883, vol. i., p. 405.

to a great thickness on one spot, so that the shape of large conical crusts is assumed, which are marked by concentric rings. From the similarity in form to rupia, Dr. McCall Anderson, who first described it, has named it psoriasis rupioides.[1] These crusts contain dried purulent matter as well as epithelial scales, and when removed, the surface beneath, which is found to be moist, also bears pus. It is thus, as Tilbury Fox expresses it, a psoriasis modified by a strumous tendency, and calls especially for the exhibition of cod-liver oil.

In a peculiar and rather uncommon variety, which from its intractability might be termed psoriasis inveterata, the scales are thick, more firmly adherent than is usual, and of a blackish-brown colour. Such a case is well depicted in *Neumann's Atlas*, Tafel XXVII.

Psoriasis may attack the nails, and alter their growth in various ways. It is usually in inveterate cases that this occurs, and such a consequence of psoriasis is not common. When the hands are much implicated the nails are certain to suffer; they become rough, thickened, and linear ridges form on them; their translucency is lessened, and they may become brown and opaque. The disease begins in the matrix and bed of the nail, and only secondarily affects the nail substance. According to Mr. Hutchinson, however, the nail is apt to be attacked at its free edge or sides, and but rarely at its root. The nail is not much altered on its surface, but becomes opaque, loose, and brittle, with some small quantity of epidermis heaped up beneath. This may be true of most cases of psoriasis of the nails, but the following illustrates a condition quite contrary, and yet truly due to psoriasis.

67. R. C., a gentleman past middle age, active and in excellent health, came early in February to consult me about his nails. The nails of the middle and ring fingers of the right hand, of the thumb, fore, and ring fingers, of the left, were affected. With the exception of the thumb, the entire nail of

[1] *Tilbury Fox's Atlas*, Plate XXXVI.

which was worm-eaten and rough, only the proximal third was diseased; the distal two-thirds were smooth and normal The nail substance was, as it were, gouged out to the depth of a quarter of an inch. All the lunula had disappeared, and there was a rough, grey-coloured gap extending from the point of emergence of the nail from the skin for one-third of its length. There was no pain, the unsightliness being the sole cause of complaint. There were spots of ordinary psoriasis on the outer side of the left thigh, on the front of the right arm, and near the elbow on the left. In all the situations the scales were thick, and the areola well defined. On the scalp were red scaly patches which itched considerably. He was directed to apply a lotion of liquor carbonis detergens and liquor plumbi to the head, and a twenty per cent ointment of oleate of nickel to the nails, and to have one-fiftieth grain of arsenious acid thrice a day in pill. He continued the arsenic steadily till the end of the year; the other applications were less regularly applied, and at that time his nails had entirely recovered their natural appearance, and have remained well.

Such being the clinical features of psoriasis, its morbid anatomy next claims attention, and in few diseases of the skin has this been more carefully worked out. We are certainly indebted chiefly to Dr. A. R. Robinson of New York for the most of our information, as our own[1] and the observations of others have but confirmed his statements. Psoriasis consists in an overgrowth downwards of the interpapillary cones of the rete, with a corresponding increase in the length of the papillary portion of the corium which separates them. The meshwork of this part of the cutis is opened out, and becomes œdematous, the vascular loops in the dilated tissue are more convoluted than in the normal condition; they are gorged with blood corpuscles—congested—and there is exudation of leucocytes into the tissue round. The deeper parts of the corium are in the early stages unaffected, but in more chronic conditions some

1 "The Histology of Psoriasis," *Edinburgh Medical Journal*, January 1879.

degree of œdema, of enlargement of vessels, and emigration of leucocytes occurs there also. The corresponding parts of the hair follicles participate in like changes. At first the corneous layers of the epidermis are little affected, but the continuance and extension of the changes in the rete and upper part of the corium induce a more rapid, but at the same time a more imperfect, cornification of the epidermic cells.[1] Thus hillocks of scales arise which are deficient in cohesion, and these being easily removed, the layer of cylindrical cells is reached, and may be detached as a film, exposing the bleeding papillary vessels. The silvery hue of the scales in psoriasis was explained by Wilson as due to the inclusion of minute particles of air within and between the loose, imperfect, spongy, horny masses. Lang thinks that this may be accounted for by the presence of fungoid elements in the film, and their remnants in the more superficial flakes.

The projection downwards of the interpapillary cones resembles somewhat the epithelial processes which are found in cancer, and the conditions seen in some forms of lupus. Yet a transition into epithelioma is rare indeed, and the cases cited by White[2] stand nearly alone. In his the sequence was through a warty change, and a case has been related where this occurred without any more serious consequences.

What, then, is the nature of psoriasis? It is not a mere inflammation of the skin, as was at one time supposed, though this may occur secondarily. In Auspitz's system it is classed as a quantitative anomaly in the process of cornification. This, however, throws little light on the cause of psoriasis. Though psoriasis commonly first appears in youth, there are a sufficient number of well-authenticated cases in which it did not occur till after fifty.[3] It is often hereditary—that is, there is a distinct

[1] Ziemssen's *Handbook of Diseases of the Skin*, p. 105.

[2] Psoriasis; Verruca; Epithelioma: *American Journal of the Medical Sciences*, January 1885.

[3] See Greenough's "Clinical Notes on Psoriasis": *Boston Medical and Surgical Journal*, September 10th, 1885.

history of an ancestor, it may be in several generations, who has had psoriasis. Yet it is seldom that more than any two members of the same family exhibit it, though the individuals of the family may be numerous.

In studying the influence of heredity in causing psoriasis, the negative power of one parent may more than neutralise the positive of the other. "A great deal of discussion has taken place as to whether the male or the female parent exerts the greater influence over the character of the offspring, and while experience does not justify any definite conclusion on this point, the question seems to have been entirely ignored, whether the union of two different natures may not produce —as in the combination of an acid and a base—a *resultant* essentially dissimilar to either of them?"[1] If we are ever able to discover that diathetic tendency which leads to the development of psoriasis, the hereditary transmission to offspring might be arrested by the union of two persons diametrically opposed in diathesis. But the predisposition is even more subtle than this. "The various inherited instincts ripen in succession. You may be nine-tenths paternal at one period of your life, and nine-tenths maternal at another. All at once the traits of some immediate ancestor may come to maturity unexpectedly on one of the branches of your character, just as your features at different periods of your life betray different resemblances to your nearer or more remote relatives."[2] Does this not account in some degree for the late evolution of psoriasis in one individual, its early in another? As the resemblance to the ancestor affected with psoriasis becomes closer or dies out, so does the disease wax or wane; while the combined and resulting influence of both parents may *originate* it.

As it does not appear in infants, and on other grounds, Mr. Hutchinson thinks it may be a weaker idiosyncrasy of the skin[3]

[1] Carpenter's *Mental Physiology*, p. 368.
[2] Oliver Wendell Holmes, *The Poet at the Breakfast-Table*, Division VI.
[3] *Pedigree of Disease*, p. 34.

than that which causes ichthyosis, and the later it first shows itself the less pronounced is this predisposition. Yet I have met with one instance in which a mild form of ichthyosis co-existed with psoriasis, without any modification of the essential features of either disease. Allen[1] has remarked on the frequent association of arthritic deformities with psoriasis in the cases he saw in the St. Louis Hospital, Paris. "Contracted joints, crooked fingers, and chronic rheumatism in active progress, seemed to be rather the rule than the exception." This would appear to be one of the racial peculiarities met with in different countries, as such a combination, though exemplified in case 66, is quite uncommon here. When it has developed, it has a curious propensity to repeated outbreaks in spring and autumn, a feature not, however, peculiar to psoriasis. In some persons pregnancy, in others lactation, increases for the time its aggressiveness, while a severe illness of a febrile nature causes the eruption to fade, the patches becoming again visible with convalescence. Children at school, according to Polotebnoff,[2] stand psoriasis badly, treatment drags, and relapses are frequent. Diminution of intellectual effort and the interruption of attendance at school, even temporarily, soon improves the general health, and simultaneously benefits the condition of the skin. It has been noticed that aggravations of the ailment in young persons arise coincidently with examinations.

The most ingenious hypothesis of its causation is the parasitic one, which has been most industriously wrought out in all its bearings by Lang of Innspruck,[3] and now that so many systemic diseases are being ascribed to micro-organisms, there is much, though not all, in psoriasis which can be very well explained on this assumption. The skin of the front of the elbow and under the knee is rougher and more wrinkled than that on most parts of the body, and thus forms a very suitable locality for the

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, October 1888.
[2] *Ergänzungsheft f. Monatshefte f. prakt. Derm.* 1891.
[3] Volkmann's *Sammlung klinischer Vorträge*, No. 208.

deposition and establishment of spores, and the hairy scalp is no less well adapted to provide them with a congenial soil. The hereditary predisposition may here come into play. On suitable skins the parasitic elements may securely fix themselves, or may, if the conditions are unfavourable, be merely temporary in their occupancy, causing a little extra scaliness, or a dry patch of eczema not unlike psoriasis in appearance. Lang has found and figured a parasitic fungus in the film which underlies the scales in psoriasis, and his observations have been confirmed by Wolff[1] and Weyl. In opposition to the parasitic origin, the non-communicability of psoriasis has been advanced, but this argument is weakened by the parallel case of tinea versicolor, which also occurs only in predisposed persons. Unna[1] has cited a curious instance where three children in succession became within a short time affected with psoriasis after a nurse-maid suffering from it was engaged as their attendant. Lassar[2] also applied a mixture of scales, lymph, and blood removed from a man afflicted with psoriasis to two rabbits, and induced directly thereafter a scaly skin disease closely resembling it in both animals. It would be a serious matter were so common a disease as psoriasis proved to be communicable. All the evidence for this is cited above, and it is scarcely even presumptive, when we take into consideration the vast number of cases in which persons have lived in the closest relations without imparting it to others. Similar fungus elements have been found in cases of eczema, and even in the dry scales from the skin. But the most severe blow to the parasitic theory has been struck by Ries[3] who has conclusively shown that the epidermidophyton is not only not the specific organism of psoriasis, but that it is an artificial product and not an organism at all. It must be granted, however, that the parasitic theory is an attractive one, and which explains more perfectly than any

[1] *Comptes Rendu de la Section de Dermatologie*, Congrès International, 1884.
[2] *Berliner klinische Wochenschrift*, No. 47, 1885.
[3] *Viert. f. Derm. und Syph.*, Heft 6, 1888.

other the peculiarities which psoriasis exhibits. The only other explanation is that it is an error in nutrition of the skin due to some functional weakness on the part of the cutaneous nerves, which in general manifests itself in isolated spots, but which may through growth in time affect pretty large areas.

The diagnosis is only occasionally difficult, and there are but four diseases of the skin from which there should be any trouble in distinguishing it. These are eczema, syphilis, lichen planus, and disseminate ringworm of the head.

On the head a dry scaly eczema may pretty closely resemble psoriasis, as in this locality, when the hair is abundant, or even in moderate quantity, the hyperæmia which underlies the scales in psoriasis is often absent. The scales are, however, thicker in psoriasis, are grouped on to particular parts, and are only occasionally scattered all over the scalp. There is often discoverable a very well marked characteristic of psoriasis here, the existence of a band of redness running along the forehead close to the margin of the growth of hair. The edge towards the forehead is pretty sharply defined, and the scales are scanty. When the scalp is bald there are hyperæmic spots more or less scaly. In eczema there is much more pronounced itching, and when the history can be relied on, there is an account of a previous moist or pustular condition. Disseminate tinea tonsurans is the state into which this passes when neglected. There is a pretty fair growth of hair, but the scalp is covered with dry branny scales, in which and in the fragmentary hairs the spores of the *Trichophyton* are abundantly present.

On the trunk and limbs we meet with a dry eczema in circumscribed patches, more particularly in scrofulous children. The scaling is slight, there is more itchiness, and the patches seldom occur about the elbow or knee. In anæmic or very fair persons with transparent skins, the patches of psoriasis, if not numerous, may pretty closely simulate this form of eczema, as they in like manner may be confused with a scaly syphiloderm. The syphilide develops from brownish or copper red shining

papules, and these avoid the tip of the elbow and part beneath the patella; while, if symmetrical, the specific eruption is usually an early one, and other symptoms of the constitutional disease are present. In psoriasis we now and then have large, irregular, dry, rough, thickened patches, which are coloured a deep crimson or purplish red, and bear few scales. These occur nearly exclusively on the shin, and may be easily confounded with a late recurrent syphilide, in which there is widespread but not deep infiltration, with perhaps no ulceration, and possibly even no scars. In all cases of doubt the whole surface should be searched, and some evidence of polymorphism may be detected, or, on the contrary, signs of unmistakable psoriasis. The history of repeated outbreaks of a similar nature, beginning in early life, is nearly conclusive in favour of psoriasis.

The patches of old-standing lichen planus may look like psoriasis, but careful investigation will discover some of the flat, shining, dull crimson-red, often umbilicated, papules at the margins of the patch.

Psoriasis sometimes leaves pigmentation in its wake, and this must not be mistaken for that due to syphilis or lichen planus.

The malignant form of psoriasis may be very like general exfoliative dermatitis or pityriasis rubra, and it is not unlikely that some of the recorded instances of the latter were but extremely aggravated and extensive psoriasis.

Seborrhœa, lupus erythematosus, and ichthyosis need only to be mentioned, though they can scarcely occasion any difficulty.

The treatment of psoriasis consists in the removal of the eruption for the time. We are not yet in a position to promise a cure in the sense that the ailment can be permanently and with certainty got rid of by medicinal agency; yet, on the other hand, to declare psoriasis incurable is an error; it may be, and indeed is often recovered from, much as syphilis is. The liability to relapse is greater, however, in psoriasis. Allowing

for deaths, and the indifference to a complaint which causes merely inconvenience but no ill health, associated with adult life, there can be no doubt that far fewer examples of psoriasis are met with in adults than in children and youths. From this it is to be reasonably inferred that in a considerable number of persons the disease dies out. Cases constantly are met with where it has at all events continued latent for years. Since, therefore, it is always uncertain whether any given case may not in this sense be curable, much encouragement is given to persevering efforts. The predisposition to outbreaks is certainly much greater in some than in others, and the mere severity of an attack on one occasion does not warrant the invariable inference that each successive recurrence will be as bad as, or worse than, the previous one. While it is true that, "whatever plan we adopt in dealing with this troublesome affection, a certain number of cases will defy our best efforts to bring about a cure,"[1] it is possible that some of these may yield at a later time even to the same remedies.

Whether we accept the parasitic theory or not, the more intimately we can bring our medicines into relation with the rete mucosum, the more satisfactorily these will act. Therefore the removal of the masses of scales is our first duty.

These may be rapidly separated by the curette, or more leisurely by oil packing, or the following ointment, if applied twice daily, will be found to remove the scales and leave a smooth surface ready for further treatment.

℞ Ammoniæ carb.	10·0
Lanolini	25·0
Cerati Galeni	50·0

When the patches are few in number, and seated on the limbs or trunk, either of these modes may be pursued; or the peculiar property of salicylic acid in causing exfoliation of the epidermis may be brought into play, by adapting pieces of Unna's

[1] Liveing, *Handbook of the Diagnosis of Skin Diseases*, p. 158.

salicylic plaster muslin to the parts, and scraping off the entire mass when thus softened. On the scalp there are several modes which may be employed to get rid of the scales. Wearing an impervious covering, such as a thin indiarubber cap or oilskin bag, for a few days will very effectually loosen them, and then they can be washed off with soap and warm water used freely. If the eruption is extensive all over the body, the employment of medicated baths, as explained shortly, constitutes the best mode of treatment, as well for the scales as the disease itself.

When in this manner the scales have been taken away, it is well, immediately before the next step in treatment, to have the parts washed with warm water, and gently scrubbed with a nail-brush. For the body and limbs the application of chrysarobin is the most efficacious method when the patches are few in number and chronic. A solution in gutta-percha dissolved in chloroform forms the best medium in most cases, since it is active without being too much so, and fairly cleanly. Ten per cent of chrysarobin dissolved in a ten per cent gutta-percha solution in chloroform is the strength which ordinarily suits best. This should be painted on the patches once in four days to a week, the old layer being peeled off and the part washed before the fresh one is painted on. Should it stain much, the linen will be further protected by covering over with a thin layer of flexible collodion. If there are many scales, and these tend to be readily reproduced, the addition of 15 to 30 grains of salicylic acid dissolved in a little alcohol to each ounce of the chrysarobin traumaticin, as the solution is called, will somewhat obviate this. The plan of treatment is that which Auspitz has initiated. It has been varied by others, but is still substantially the best.

A much more active method of using chrysarobin is in association with lanoline, as Lassar recommends. Twenty grains to the ounce is strong enough. Mr. Hutchinson[1] advocates the

[1] *Archives of Surgery*, No. 1, 1889.

following combination, a small quantity to be rubbed in at night, before the fire if possible.

℞ Chrysarobini . . .	grs. 5-10
Liq. carbonis deterg. . .	m. 10
Hyd. ammoniati . . .	grs. 10
Adipis benzoat. . . .	ʒi.
	—— M.

Some precautions are necessary in using these. Only a small quantity must be employed, and solely to the patches themselves. It should not be rubbed in oftener than once in two or three days, sometimes even less frequently. Even a single application has caused a widespread erythema, and the use of soap to the parts treated with chrysarobin intensifies the tendency to its production. Sponging the skin with vinegar before applying the chrysarobin, according to Behrend, lessens the inflammation, but at the same time weakens its effect. This, indeed, as well as the indelible colour it imparts to the clothing, constitutes the main drawback to the use of chrysarobin. When the dark purple erythema shows itself, the remedy must be at once discontinued, and the affected skin freely dusted with powdered talc, French chalk, cimolite, or rice starch. When chrysarobin has been used for the cure of psoriasis, the patches themselves become whiter than normal, while the surrounding skin is rendered much darker. These alterations in pigmentation—atrophy and hypertrophy—slowly but steadily disappear. Sometimes a curious result of chrysarobin is seen. When the hyperæmia fades, fresh spots of psoriasis come out on the parts where it had been used. This is analogous to the fresh spots which are known to appear sometimes, and in certain persons liable to psoriasis, on parts which have been scratched or otherwise injured.

Substitutes for chrysarobin have been recommended; among others, alizarine by Dr. Adams, pyrogallic and rufigallic acids. Pyrogallic acid is an uncertain remedy. While in most

persons no local ill effects ensue, in some it occasions vesication, and even gangrene of the skin, and if applied to a large surface of the body toxic symptoms have accrued from absorption.

Anthrarobin, prepared from alizarine by a process of deoxidation, is the latest addition to the therapeutics of psoriasis, and, so far as I have had opportunity to test it, seems to promise fairly well. It is a yellowish-white powder, permanent when dry, in the air. It is best used dissolved in boiling alcohol, and the tincture so made, which may be a ten or a twenty per cent one, will keep for a week if in a well-corked bottle. It can be used on the face, and Behrend has applied it for weeks to the eyelids without causing œdema or conjunctivitis. It stains the skin a yellowish brown, and the linen a reddish purple, which, unless washed out at once, is permanent. Its action is intensified, without any risk of erythema resulting, if the affected parts are rubbed with Hebra's spirit of soap, or with soft soap, previous to its daily application. In the case of a young woman with flaxen hair and delicate skin, who had an extensive psoriasis, this was completely removed by the use of a ten per cent anthrarobin tincture daily for six weeks. Chrysarobin, when applied to her skin, caused intense erythema—anthrarobin, on the contrary, only some burning pain for a short time but no irritation. It is certainly less active than chrysarobin, but the greater tolerance of the skin compensates for the prolonged duration of treatment.

For psoriasis on the face Hardaway[1] recommends—

℞	Sulphuris precip.	ʒi.
	Acidi salicyl.	grs. xx.
	Cerati Galeni ad	℥i.
		—— M.

To be applied once or twice a day.

Tarry preparations still hold their ground, though they have the disadvantage of the unpleasant odour. The oil of cade

[1] *St. Louis Courier of Medicine*, May 1888.

is perhaps one of the best, and in Vidal's opinion cases treated with it are least apt to suffer from relapses. A good mode of using it is—

℞	Glycerini amyli	100·0
	Saponis mollis	5·0
	Olei cadini	100·0
		—— M.

This is to be applied at night, and a flannel dress worn. In the morning a bath with tar soap is taken.

The alcoholic solution of coal tar, known as liquor carbonis detergens, is also a good application for psoriasis of the scalp. It may be employed with the liquor plumbi subacetatis, as described under eczema.

When the eruption of psoriasis is very widely spread over the body, and when its advance is no longer acutely progressive, most benefit is obtained by the use of baths. The mere soaking in warm water for a considerable period of time daily is in itself advantageous, but the action of the water on the skin is greatly intensified by the addition of an alkaline carbonate or an alkaline sulphur salt. Sometimes the one of these, sometimes the other, proves most effectual. Since the sulphur blackens lead, paint, and stains the enamel of a bath, the alkaline salt alone should be first tried. Two or three ounces of the carbonate of potass are mixed with thirty gallons of water at a temperature which should be maintained between 95° and 98° Fahrenheit, neither extreme being exceeded.

In this the patient should soak, head and all if possible, provided the hair can be dried afterwards, for an hour to an hour and a half at night. Less than this does little good. Such a bath is by no means weakening, and if the time be so arranged that retirement to bed is possible at once on its conclusion, there is no risk of cold. Since, however, the alkali removes the natural oiliness of the skin, it would feel tense and uncomfortable were some artificial lubricant not used to replace this.

Vaseline answers very well, but still better is a heavy hydrocarbon oil, made by the Dee Oil Company, near Chester, and called by Dr. Roberts of that city oleum deelina. This is inodorous, quite bland, and soothing to the skin. The oleum sesame is also a suitable oil for this purpose. Under this mode of treatment the scales steadily disappear, and in a short time mere hyperæmic blotches remain, which may be subsequently attacked by chrysarobin.

The sulphuret of potass can be similarly used, the sulphurous odour which it disseminates through the house being, however, rather undesirable. When head and trunk are alike affected, it is perhaps the best. Occasionally such baths stimulate the skin too much. In one case a copious eruption of boils followed, which subsided satisfactorily under a short course of starch baths.

I have accorded the first place to external remedies for the removal of psoriasis, but the same result can sometimes be obtained by internal means, and a combined treatment does, under certain circumstances, act more promptly. There is but one medicine which has any real influence on psoriasis, and that is not an uniform one. Arsenic alone can cause the disappearance of the eruptions. Neither carbolic acid, carbonate of ammonia, tar, or burdock, have, in my experience, proved of any value. The hyperæmia has diminished a little under their use, but that was all. In certain cases iodide of potassium in large doses does seem useful. Hasland, Barduzzi and others have had success with amounts up to 105 or more grains daily. Under what circumstances it should be resorted to with a likelihood of benefit cannot so far be indicated. The eruption may fade while such drugs are being administered, but so it does spontaneously though no medicine has been swallowed or outward application used. Arsenic should never be prescribed when the disease is actively spreading, nor when the patches are hot and irritable. In such it aggravates rather than checks the progress. Arsenic attacks the columnar cells next the derma first, partly

because these are nearest the vessels containing blood charged with the metal, partly because these cells are more active and their protoplasm more irritable. In psoriasis it probably stimulates the cells of the epidermis to exhaustion, so that destruction overruns construction. It is when the eruption is quite chronic, or at least has settled down and is extending but slowly, that we can employ it with advantage. I have a preference for the arsenious acid in pill, coated with gelatine, commencing with $\frac{1}{50}$ of a grain and increasing the dose till $\frac{1}{20}$ or even $\frac{1}{12}$ is taken thrice a day directly after each meal. In psoriasis of the nails it acts well, if persevered in for a long time in moderate doses. Arsenic will at one time cause the disappearance of the eruption very satisfactorily, at another, and in the same person, it exerts little or no effect, while the disease sometimes seems to acquire new vigour while it is being taken. In the anæmic a good combination is the liquor arsenicalis with the mistura ferri composita. I can confirm Dr. McCall Anderson's opinion that persons are more liable to catarrhal attacks during a course of arsenic, though I would add that all are not equally influenced in this respect.

Some time since Dr. Napier advocated the employment of chrysarobin internally in psoriasis, and I tried it in doses increasing from the sixth of a grain upwards. It invariably occasioned more or less acute gastric catarrh, so that it had to be stopped before any decided opinion could be formed of its action on the psoriasis.

The diet in psoriasis requires nothing more than attention to ordinary rules, with the exception of alcoholic stimulants. I have been unable to satisfy myself that the ingesta exert any influence. Alcohol, however, does sometimes increase the itching, and may favour the spread of an acute attack.

In all the atlases will be found illustrations of psoriasis: the following are typical of the forms most liable to cause difficulty.

Commencing psoriasis is shown in *Wilson's Portraits*, Plate

A M.; psoriasis capitis in the *Sydenham Society's Atlas*, Plate IV.; psoriasis palmaris, *Sydenham Society's Atlas*, Plate XVII.; a serpiginous syphilide, which resembles psoriasis, *Wilson's Portraits*, Plate A Q; psoriasis rupioides of Anderson in *Tilbury Fox's Atlas*, Plate XXXVI., and a form of true rupia resembling psoriasis in the *Sydenham Society's Atlas*, Plate XXXVII. In *Neumann's Atlas*, Tafel XXXIV., a case is represented where the scales were black.

Allied closely to psoriasis are two rather uncommon complaints, both characterised by scaliness, but in other respects distinct. One of these is *Pityriasis rubra pilaris*, a disease which many even of the Vienna school admit comprises the greater number, if not all, of the cases originally described by the elder Hebra as lichen ruber acuminatus. The term applied remarkably well defines the ailment. Pityriasis connotes the exfoliation of fine, dry, white scales; rubra, the substratum of pretty intense and universal redness; and pilaris, since the hair system is markedly involved.

Devergie and Richaud in the first instance drew attention to it, Brocq, C. Boeck, H. von Hebra, but particularly Ernest Besnier[1] in a remarkable monograph, have treated of it. The account which follows is drawn mainly from the observation of a typical example which was under my care during the spring of 1890,[2] compared with the details afforded by the authors named. It usually commences by the formation of scaly patches on the palms and soles, and by a dryness of the hair of the scalp associated with much dandruff. Sometimes, however, it begins on the face, which becomes covered with fine adherent flakes of a bran-like aspect. Or the peculiar papules may primarily show themselves on the trunk or limbs. These are acuminate, red, hard, and dry, each having a broken-off hair in its centre, and surrounded by a species of horny collar, dipping down into the

[1] *Observations pour servir à l'histoire clinique du pityriasis rubra pilaire.* Paris, 1889.

[2] *Trans. Med.-Chir. Soc. Edin.*, 1889-90, p. 148.

follicle. The papules are of the size of a pin's-head to that of a hemp-seed, never larger. As they increase in number they at the same time become more closely set, till at length they lose their individuality and patches of a variable extent arise. The affected skin then feels thickened and immobile, looks reddish or yellowish, and bears scales usually fine and branny, less often flaky, frequently adherent, imparting the semblance of a coating of plaster or lime. As a rule, at the edges of the patches isolated papules can be found, but the eruption may be so generalised that the papular element is wholly or all but wholly lost. The face is often covered with minute scales and seborrhœic crusts seated on a reddened surface. The integument is stretched, occasioning a greater or less degree of ectropion. When the superincumbent epidermic accumulation has been removed as the result of treatment, dull brownish-red papules, not unlike those of lichen planus, are disclosed. This phase of the complaint is beautifully illustrated in connection with a paper by Dr. R. W. Taylor[1] descriptive of a well-marked case.

The nails are usually attacked, are greyish and striated longitudinally, while characteristic papules are to be seen set in isolated fashion on the dorsum of the phalanges of the fingers. Apparently the disease may commence at any age, and last indefinitely, partially disappearing at times. The general health is little affected, some, now and then very severe, itching accompanies it, most pronounced at night. It has probably been confounded with eczema, with lichen ruber planus, with lichen pilaris, with ichthyosis, and with some examples of psoriasis. The diagnostic features have been so tersely laid down by M. Besnier, that if attended to, a mistake is scarcely possible. The thick, greasy, pityriasis-like deposit on the scalp, the scaly redness of the face, with tension of the skin, and a slight degree of ectropion, or its uniform envelopment by a dry, plaster-like adherent coating, the minute white, grey, or red scaly xerodermic

[1] Lichen ruber as observed in America, *New York Med. Journ.*, January 5, 1889.

prominences, having a hair in the centre, and notable on the dorsum of the phalanges as their favourite locality, the symmetrical exfoliation of the palmar and plantar surfaces, the alterations of the lower segment of the nails and of their bed resembling rush-pith, the branny redness of the skin, with fine exaggeration of the cutaneous folds, the subacute course, gradual or chronic, the absence of severe constitutional symptoms, make this disease, when developed, one of the most characteristic and easiest of recognition.

My patient was a man of 26, who had suffered from the disease for eight months, ere he came under treatment. This was carried out in Ward 31 by the kind permission of my friend Dr. Wyllie, and consisted of nightly baths of potassa sulphurata and starch, followed by the application of the oleo-calcareous lotion with salicylic acid. He steadily improved, and was discharged well at the end of three months. As the papules became flattened, brown pigmentation appeared, and this persisted for some time after no elevation of the skin was perceptible. But the integument had acquired its normal unctuousness and pliancy, the hair had grown, the nails had resumed the habitual condition, while he had gained nine pounds in weight when he left the Royal Infirmary.

Pityriasis maculata or rosea of Gibert, a much slighter ailment, is the other affection which seems related to psoriasis. According to Brocq, who has devoted some attention to this point, it always commences by the appearance of a single patch, which he calls the primitive one, and which may be seated anywhere on the trunk or neck, sometimes on the arm. This patch is oval or round, the margins are a tolerably bright rose colour, slightly elevated above the surface, and bearing a few fine adherent scales. The centre is a brownish rather faded red. The size varies from a quarter of an inch to an inch or more in diameter. In course of a few days many more spots appear similar to the first. These are found on the neck, abdomen, sides of the thorax, the arms and thighs, less frequently on the

exposed parts. When fully developed there are innumerable patches of a reddish fawn, very slightly scaly, and but little elevated. The margins are rather more brightly tinted than the centres. Itching is seldom severe, though usually present to some extent. It is a rare form of disease, but occurs in my experience most often in the female sex. Apart from micrococci, not apparently distinctive, no parasitic elements have been met with, and this circumstance enables us to distinguish it from tinea corporis, to which it bears considerable resemblance. As being a symmetrical and superficial eruption it might be taken to be a squamous syphilide, but there is an entire absence of any of the symptoms of constitutional syphilis, while the characters are uniform, not multiform. It is lichen marginatus which most nearly imitates it, but the situation favoured by this variety of lichen on the centre of the chest and back, the greasy nature of the skin, the fact that the patient wears habitually thick flannel vests, and is a male in most cases, will serve to separate them.

No cause has been ascertained to account for the appearance of this malady. It tends to disappear spontaneously in course of one to several months, but its departure can be expedited by the administration of baths of potassa sulphurata, repeated nightly, and followed by inunction with oil. So treated the itching ceases and the eruption very speedily fades.

CHAPTER XXIII.

ACNE, AND A BAD COMPLEXION.

Acne in one form—that of acne vulgaris—disputes with eczema the first rank in regard to frequency among diseases of the skin. It is true that many cases of acne are so slight that regular treatment is not sought for or obtained, and if anything is done at all, recourse is had to some of the empirical preparations which are extensively advertised. Like locomotor ataxy, too, a somewhat evil reputation unfortunately hangs over acne, and it is tacitly associated with breaches of moral purity. The error of this imputation, in the greater number of cases at all events, will be exposed further on. The disfigurement which acne alone causes is keenly enough felt without this implied stigma.

Acne is met with under five forms or varieties,—acne vulgaris, acne indurata, acne varioliformis or lupoid acne, acne artificialis, and acne rosacea, the latter, however, being a compound disease, and often regarded as quite distinct from the others.

The derivation of the word acne is unsettled, but the picture it conveys is a familiar one.

(1) In *acne vulgaris* we have the commonest form,—a disease of youth, usually occurring between the ages of sixteen and five-and-twenty. The most frequent situations are the face, the upper part of the back, and less often the chest. The comedo constitutes the first stage of acne, and, according to Unna, suppuration only subsequently occurs in those follicles within which micro-organisms capable of inducing this process

are present. These have gained access before the follicle became obstructed. Some irritant then determined the commencement of the inflammation. There are flesh-coloured or red pimples, few or numerous, or more decided pustules; and between these are seen comedones, due to a plugging of the dilated ducts of the sebaceous glands by retained secretion. This has become horny at the surface, and blackened by dirt and dust. The skin itself looks thick and greasy from the co-existence of oily seborrhœa. The pimples and pustules are scattered irregularly, and are in all stages of development. There is no itching, though a very large pustule, which is a veritable boil, may be hot and tender. The eruption varies in its condition with the health. Especially does the state of the genital system affect it. Thus in females it is usually worse, and the pimples most plentiful about the period. In men subject to it, seminal discharges may aggravate it when these occur. The disease is equally common in men and women, but is seldom seen before puberty, and never in children, though comedones are sometimes met with in them.

The following case illustrates this form of acne in females.

68. M. R., thirty, a stout lady, living in a country town, with a pasty complexion. She does not take much exercise, and rises late. She lost a sister some years since, and the bowels have been relaxed from that time. She has also had over-profuse menstruation, with some leucorrhœa, for a considerable time. She has numerous spots of acne on chin and cheeks, mostly small, and with few comedones. She was directed to take Blaud's pills in interval, and liquid extract of ergot with sulphuric acid during period, to have a cold bath every morning, and to bathe the face with warm gruel night and morning; afterwards to apply a lotion consisting of potassa sulphurata, zinci sulphatis, and glycerine, each ʒi., and rose water to ʒiv. As she was to be married in the course of a few months, this treatment received a fair trial, and two months

afterwards she had a much clearer complexion, no anæmia, and scarcely any acne spots visible.

In the following case the effect of regulating the menstrual secretion, and general increased care to the hygiene of the skin by means of baths, is well shown.

69. M. S., eighteen, a sallow girl, not well grown for her years, with an air of weariness and listlessness about her. The skin of the face is thick and doughy, and is studded with comedones, and shows a number of acne papules and pustules. It looks greasy also from seborrhœa oleosa. She is never regular as to time of menses; the flow is usually late; at present it is a week behind time. She was ordered permanganate of potash pills, to be taken for four days before expected period. The face to be steamed, well washed with soap, and a sulphuret of potass and sulphate of zinc lotion applied. Three months later the menses had been to time since the pills were begun, but the face remained much the same. She was ordered a lotion of precipitated sulphur, and was directed to take swimming lessons, and after each to use the spray bath. In six months more the complexion was clear, the skin smooth, and there were neither acne spots nor comedones, while she looked and felt much brighter and more lively.

(2) *Acne indurata.*—There are all stages of intensity between a mild form of acne simplex and a bad one of acne indurata. In the latter there are rather tubercles than pustules, though there may be a combination of the two. The pustules are seated on an indurated base, or several are placed so closely together, and in a line, that an oval swelling is produced, in shape resembling a grain of oats. The colour is often a dusky purple, and externally there may be no evidence of pus, though when incised a sanious fluid, which is often fœtid, escapes, or can be pressed out. When the tubercles have been opened, or the contents have become absorbed, a purplish stain persists for some time, and scarring may remain. The tubercles are painless, the skin is inactive and doughy, comedones are present, and

there is often a degree of rosacea, while the whole aspect is generally strumous. The indurated pustules are more highly inflammatory, and may be painful. One of the most well-marked examples of this form occurred in three brothers, tall, strong, otherwise healthy lads, with thick greasy skins. The eldest had not had any treatment till the disease had lasted some years, and it was correspondingly obstinate; but the others came earlier, and were never so much troubled.

(3) *Acne varioliformis.*—This variety of acne is characterised by certain points of distinction from the other forms. It occurs as a rule at a later period of life; there are no comedones; and the forehead is the locality which it chiefly attacks, though it may be seen all over the face, the pustules extending among the hair of the scalp, and even is met with on the back.[1] The primary eruption, when seen in its early stage, seems to be more of a pock than a papule or pustule, but what is usually seen is a number of flat-topped, slightly raised pustules, with a considerable degree of congestive induration round each. In this induration Boeck has seen minute punctate hæmorrhages, which impart a violet or brownish-violet hue to the largest papules. The scab which forms, besides being flat, is often cupped. It arises from a species of mummification *en masse* of the epidermis and part of the corium. When the scab is thrown off a circular and punched-out pit or depression is left, which remains as a permanent cicatrix. The disease may be accompanied by burning sensations. It lasts some time, and to a certain extent comes and goes. In general aspect it resembles variola, but is most often mistaken for a syphilide, and there is a pustular syphilide very like it. In acne varioliformis, however, syphilis can be completely eliminated, both as regards history or concomitants.

The disease has also been named lupoid acne, but the only connection established between it and lupus is the fact of its leaving scars.[2]

[1] *Clinical Society's Transactions*, 1884. The illustration attached to this Paper by Dr. Stephen Mackenzie is simply perfect.

[2] Dr. Bulkley in *Journal of Venereal and Cutaneous Diseases*, October 1882.

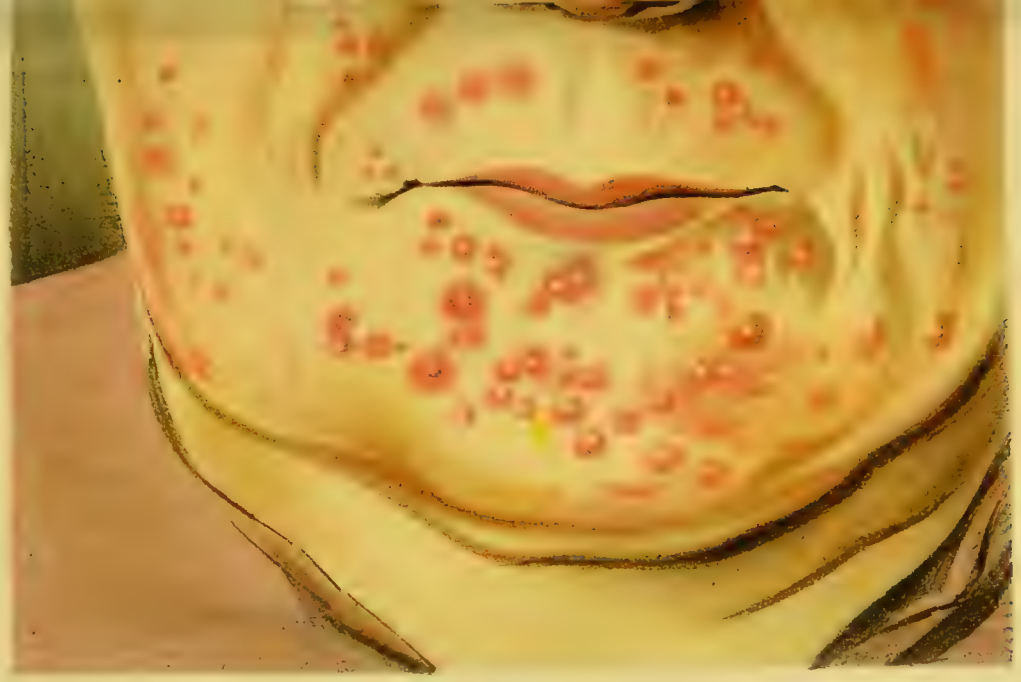
70. Mrs. W., aged sixty, an otherwise healthy woman, rather pale in complexion, attributes her present ailment to being overheated in February 1884. There are no comedones, but scattered all over the face are pustules and papules, each surrounded with an inflammatory areola. There is no rosacea. The pustules tend to scab, and the scabs thus formed are flattened. She was ordered a mixture of acetate of potass, nux vomica, and cinchona, and a lotion of sulphuret of potass, sulphate of zinc, glycerine, and water, to be used twice a day. The disease steadily improved under this treatment, but the face when she was seen a year after was pitted over with round scars. The plate shows the appearance of the eruption at its height.

This form of acne is decidedly rare. So far, no microscopical examination of the skin has been recorded.[1] Boeck,[2] however, has made sections of the scab. He finds the epidermis in a condition of hyperplasia, the vessels of the cutis dilated, convoluted, and congested, small hæmorrhages in the corium. He regards the disease as a constitutional rather than a purely local one.

(4) *Acne artificialis* is that form of acne which disappears when the cause is removed. Bromide of potassium, and, still more, bromide of sodium, in some persons produces an eruption which is much like acne. It is an inflammation of the sebaceous glands, and the pustules are flatter and larger in some cases than in acne. Ringer says that the bromide of sodium is less apt to produce acne than the bromide of potassium, but I have met with cases where the potassium salt was taken for long periods without inducing acne, while a very short course of the sodium one served to produce it in the same person. There would seem to be an idiosyncrasy present in such cases, as it does not appear to be the amount taken which causes it;

[1] See *Acne: its Etiology, Pathology, and Treatment*, by Dr. L. D. Bulkley, p. 176.

[2] *Archiv f. Derm. und Syph.*, 1 Heft, 1889.



ACNE VARIOLIFORMIS.

indeed, sometimes it has resulted from very small doses. In some cases the combination of arsenic with the bromide controls this tendency.

In like manner, though less often, the iodides may cause acne. In both these forms the bromine or iodine, as it happens, has been found in the sebaceous glands.

Tar, administered as tar water or tar pills, has caused acne, but far more often it is the external application of tar which occasions it. Workers in petroleum refining works suffer from this acne, which was thought to be due to the action of the atmosphere loaded with the petroleum vapour. The researches of Lewin,[1] however, in the oil regions of Pennsylvania have demonstrated that, while those who handled the light oils and kerosene were not affected, others who worked among the heavy residual products were, especially if they neglected frequent washing with soap. The mouths of the follicles become plugged, tar comedones follow, and if the irritation persists, pustules result. Tar acne lasts longer after removal of the cause than that from iodine or bromine. Burning and itching sensations accompany acne from petroleum. Acne limited to the forehead sometimes is occasioned by the irritation which some enamelled hat-bands cause; both black and white ones have led to this in my experience. The enamel contains some substance, probably arsenic, volatilised by heat, and a cure can only be effected by replacing the leather by a soft linen or silk lining to the hat.

(5) *Acne rosacea* is usually described as distinct from the other forms of acne, and no doubt in many cases there are features which serve to separate them. Acne rosacea is in fact a compound disease. We may have rosacea simply, or with acne superadded, or, still further, hypertrophic changes may ensue. Yet the gain is not great when acne and acne rosacea are treated of apart. The milder forms of acne rosacea are chiefly met with in women, the severe, and those in which there is a formation of new tissue, in men. There are three stages in

[1] Virchow's *Archiv*, April 1888.

which the disease is encountered. In the first there is a blush of redness affecting the tip and sides of the nose, and commonly also extending over the cheeks on each side; always to some extent permanent, but varying in degree with emotional causes, or with alternations of temperature, or with the ingestion of hot or stimulating articles of food or drink. The redness contrasts strongly with the hue of the rest of the face, and may extend to the chin, the forehead, and even the ears. It may be of a bright red or a dull purplish character, according to the activity or otherwise of the peripheral circulation of the individual, or the temperature of the air. On close inspection there are discoverable some dilated and tortuous venous radicles, or these may be numerous and large. Unpleasant sensations of burning are complained of, and the parts may be swollen, though often cool to touch. If the skin is thick the surface may be greasy, or if thin, the appearance is more like that assumed by erythematous eczema. If it persists, the part becomes dotted over with acne papules and pustules, which may be small, or may have an angry and inflamed look. Sometimes there are no pustules, merely nodular elevations, which rather resemble the superficial gumma. In most persons the chronic congestion, the rosacea, and the consecutive acne constitute the climax of the disease, but occasionally there occurs an actual increase of connective tissue, producing the aspect to which the term "grog blossoms" has been applied. The implied cause is sometimes not the true one, as the unfortunate possessor may be of temperate and even of abstemious habits. The nose is the part which suffers the greatest degree of distortion in these cases. It becomes enlarged, covered with rough tubercular eminences; it assumes a purplish hue; the veins are largely dilated and tortuous; the surface pitted with the ducts of the glands, which gape widely. In a few instances a still greater degree of hypertrophy takes place, and pendulous masses, separated by wide fissures, overhang the upper lip.

In the more moderate forms of the disease, it is frequently

mistaken for eczema, to the erythematous form of which it bears sometimes a pretty close resemblance; and this error is not a very serious one, as the treatment adopted will most likely be too mild rather than too severe.

Unna has pointed out[1] that there are two types of rosacea. One, the more common form, which exhibits more resemblance to ordinary acne, nodules and pustules seated on a dusky bluish-red swollen base. The other presents a clear red arterial congestion of varying intensity, the thin cuticle being either smooth or slightly scaly, with no—or but few—comedones and acne pustules. This approaches most nearly to eczema, and unsuitable treatment may transform it into an eczema.

Confusion with syphilis is more serious, though careful investigation will nearly always prevent such a mistake being made. The presence of the varicose and tortuous venules is perhaps the feature which, of all others, will aid to a correct view being taken. The disease is very common and very disfiguring; and as in nearly all stages it is very amenable to treatment, it is well worth careful attention.

In the following case the commencement of the disease was most likely a species of sunstroke, which caused vasomotor paralysis of the capillaries of the face, and then an acne rosacea resulted from the combined influence of the menopause, some internal ailment—the exact nature of which was not communicated—and a chill.

71. M. R., about forty-six, a lady of excellent constitution, who had had a good many children, was in 1868 for many hours exposed to the sun on a hot day at North Berwick. Her face became much flushed, and she felt ill and out of sorts for long. But it was not till 1880 that, after a chill, the present eruption appeared on her face. I saw her in the summer of 1881. The cheeks were much reddened, slightly swollen, hot to touch, and were studded over with papules and vesico-pustules. On the chin and forehead there was also some rosacea, with papules and

[1] *Dermatologische Studien*, Zweites Heft, "Ichthyol und Resorcin." 1884.

pustules. The venous radicles were dilated and tortuous. The eruption does not itch, but burns and tingles at times. It has never been moist, and it varies in intensity, though it has not disappeared since it came out. Any exposure to heat or exertion makes it much worse. The bowels are constipated. A mixture of sulphate of magnesia with sulphate of iron and sulphuric acid was ordered to be taken each morning; the face to be protected from extremes of weather, or from any sudden changes or alteration of temperature, from the glow of a hot fire, or from cold winds; to be bathed with gruel instead of being washed with soap; and a lotion, consisting of precipitated sulphur, oxide of zinc, and glycerine, each a drachm, prepared calamine two drachms, and water to four ounces, to be applied twice a day. She continued this treatment for four months, and at that time it is noted that the acne had entirely disappeared, and there remained nothing more than a delicacy and thinness of the epidermis of the face, with dilatation of the capillaries. These she would not permit to be incised, but she continued well, though care was necessary to avoid exposure. Any indiscretion in that respect caused a slight return of the acne rosacea.

The disease in the following case was associated with menorrhagia and indigestion; but the family was a neurotic one, and a cousin suffered from acne rosacea in intense form, as well as some mental aberration.

72. S. M., thirty-eight, a lady who lived in the country a healthy and easy life. Suffers from indigestion, slow digestion, and a costive condition of bowels. For a year or two the menses have become too profuse, and last over a week, and the flow is accompanied with pain in the back, which did not use to be the case. Coincidently with the alteration in the character of the menstrual function, the face on the cheeks and nose has become red, the capillary vessels dilated, and small acne papules to show themselves. Rest and ergot with sulphuric acid were enjoined at the period, and in the interval the mixture of acetate of potass, nux vomica, and cinchona, mentioned previously, and the

German compound liquorice powder as might be needed to relieve the constipation, while the dietary was modified, and vegetables added to it. For the face bathing with gruel and a sulphur and calamine lotion. A complete and permanent cure resulted.

73. Miss E., thirty-three, dressmaker. Is stout and healthy looking, but she menstruates rather freely; in other respects she feels well. Her face has of late become redder than it used to be, and pimples have appeared on it, which distresses her. There is, however, more of a general and diffused redness than marked and localised rosacea, intensified on cheeks, chin, and forehead, with papules and a few pustules scattered here and there. The face flushes considerably at times. The first sound of the heart is impure both at base and apex. The bowels tend to constipation. She was directed to bathe the face with oatmeal gruel, and to apply night and morning a calamine and sulphur lotion, while a mixture of liquid extract of ergot and dilute sulphuric acid was prescribed, to be taken thrice a day continuously, and in increased doses during the period. Two months later the number of the papules was less, and the redness markedly paler, while the menorrhagia had diminished. Six months afterwards the face had become quite smooth, there was neither undue redness nor any sign of papules, and her complexion was clear and healthy.

The causes of acne in its various forms are somewhat different, and the same division will be followed. In acne vulgaris they are twofold, one in the skin itself, the other in the system generally; and from this it follows that while external treatment will frequently remove the visible appearances, unless the fault in the system can be and is corrected, fresh outbreaks are sure to occur. And this is an argument for early and careful treatment, instead of, as is too often done, merely telling the patient that the disease will cure itself in course of time. Probably it will, but at the expense of much distress to the sufferer during these years, and with the result of indelible scars

in too many cases, of permanent coarseness of the skin in all. The reason why we so often fail to cure acne rapidly is because the skin glands have been so long out of order that they return but slowly to their healthy condition under the improved hygiene. For the production of acne at all it is essential that the sebaceous system should be largely developed, and the skin moderately thick.[1] Acne and eczema are in this respect strongly opposed: a skin which is liable to acne in a typical form seldom suffers from eczema. But when the thickness of the skin is not much above the average, or the sebaceous glands are not unduly developed, we may have cases where the features to some extent resemble an eczema, and here a modified and less active treatment is demanded. A sluggishly acting skin which permits an overgrowth of epidermis leads to a plugging of the sebaceous ducts, the production of comedones, and of perifollicular abscesses.

There is a close connection between the evolution of the sexual system at puberty and the appearance of acne vulgaris, between its commencing and progressive involution and acne rosacea. In females, irregular menstruation as to time and quantity is constantly found in association with acne vulgaris. In such persons this function has never been healthily established, and in closely considering the cause of this, we are led to connect it with the abandonment of exercise and romping, and the adoption of sedentary habits by the girl at this age. Without entering deeply into this question, there is no doubt but that the physical education of girls should go hand in hand with their mental. It is on all hands admitted that, to maintain the moral and physical tone of boys, athletic sports are indispensable, but in the case of girls the parallel has not been accepted, though it is equally necessary for them.

This is a most legitimate field of agitation for the supporters of women's rights. Every one knows how common constipation is among school-girls. The mere mechanical pressure of the masses of fæces must tend to interfere with ovarian development

[1] Hutchinson's *Pedigree of Disease*, p. 109.

by deranging the circulation, while at the same time this displaces and flexes the uterus, and leads to dysmenorrhœa. The first cause of acne vulgaris in females is often constipation. Another and more directly efficient one is imperfect menstruation. We cannot come much nearer the truth than this, as no one variation in the due performance of menstruation has been invariably associated with acne. The commencement of acne in girls may sometimes be traced to the date of their residence in Germany, when at school there. The change of diet, the deprivation of exercise, the hot summers, and the increased study, all tell in this direction on British maidens.

Another cause of acne in lads and girls is the neglect of washing. Were abundant exercise taken, so that the free perspiration so induced would keep the glands open, baths, merely in the light of preservatives from acne, might be less necessary. But when exercise is defective, the skin of the whole body must be stimulated artificially by baths; when exercise is indulged in, baths are necessary for cleanliness.

In lads the growth of the beard and the production of acne are closely connected. With a plentiful growth of hair on the face, there is seldom seen any, never much, acne. Where the face long continues bare, or the growth is thin and scanty, acne is much more commonly met with. It would seem that if there is any difficulty in the way of the descent of the follicles which produce the lanugo deeper into the skin, so as to enable a stronger hair to take its place, a disturbance of function may occur and acne supervene. This is supported by the evidence of Professor Rigler, who noticed that in Constantinople those boys who are castrated early, so as to act later in life as eunuchs, seldom suffer from acne at the period when puberty would have been established.[1] There is no formation of strong hair on the cheeks of eunuchs, and thus no physiological stimulation of the sebaceous glands of the face. Acne, according to this view, is a faulty condition of complementary nutrition.

[1] Hebra, *Diseases of the Skin*, Sydenham Society, vol. ii., p. 291.

A want of tone in the arrectores pilorum and in the involuntary muscles of the skin generally has been suspected, and the regular emptying of the gland ducts by their contraction, being thus inefficiently accomplished, comedones and acne may originate. This is probably a cause of acne on the back.

Much correspondence has lately taken place in the medical papers as to the effect of premature and excessive stimulation of the sexual organs in leading to acne. At puberty, and soon after, this stimulation is commonly abnormal in kind, and its existence must be admitted to be very prevalent, far more so than acne is, at least acne of any degree of severity. The true state of the case seems to be this, that masturbation is merely a cause of acne in so far as it lowers the general tone, and from its influence in inducing anæmia. When this practice is indulged in by those predisposed to acne from the structure of their skins, it may aid in evoking it, but it is equally certain that it may be carried on to a great extent without causing acne, and that acne occurs in persons free from any such vice. While thus masturbation may be a maintaining agent in some, a favouring one in others, it is utterly erroneous to brand the majority even of those affected with acne with having practised it. In adults the incomplete performance of the sexual act, relatively to both parties, has been shown by Piffard[1] to be an occasional cause of acne, seldom discovered.

The causes of acne rosacea are chronic forms of indigestion, which lead to inactive circulation and stasis in those parts of the body most remote from the centre. Rosacea is more common than acne from this cause. The reddened tip of the nose, so disfiguring, and the source of so much annoyance to some ladies, is that variety most usually met with. Menstrual disorder, chiefly menorrhagia, is another fertile source; and then come those agencies which favour vasomotor paralysis. Alcohol in some forms is one; exposure to weather is another; the two are not infrequently conjoined. In women exposure to

[1] *Journal of Cutaneous and Venereal Diseases*, vol. i., p. 369.

excessive heat, or over-exertion in such heat, may lead to the development of acne rosacea. It is very doubtful if cosmetics have any such effect, though their use may produce a coarse skin; this at least, seldom acne, is the result of the "make-up" employed by actors and actresses.

In all these cases, however, there must be a predisposition on the part of the skin of the face, a thinness of the horny layer, which does not exert the due amount of constraint on the capillary vessels. Those skins, therefore, most liable to acne vulgaris in early life are not as a rule the ones prone to acne rosacea in later years.

Occasionally a localised acne rosacea of the nose seems connected with chronic hypertrophy of the nasal mucous membrane, especially of that over the middle turbinated bone. In a case under Dr. M'Bride's care the acne was benefited by the application of chromic acid to the hypertrophied part.

In all the varieties of acne it will be found that the blood supply to the skin is liable to disturbance in connection with the derangement of what is known as tone. It does not matter what the precise cause of this disturbance of tone is, whether the patient has been lowered artificially by the administration of iodides or bromides, or whether he brought it upon himself by any one of the many various possible irregularities of life, whatever has lowered his tone will place him in danger of acne, while the form will depend on the original endowments of his skin.[1]

The diagnosis of acne vulgaris is usually easy. The period of life, the situation, and the absence of subjective symptoms are sufficient, when taken in connection with the lesions present, to prevent a mistake. Acne varioliformis bears a close resemblance to a pustular syphilide on the face; indeed, sometimes, unless the history and the whole cutaneous and glandular systems are examined into, an error may very readily be made. This acne of middle life demands the exclusion of syphilis. Acne rosacea may be confounded with lupus erythematosus, but in it there

[1] Hutchinson, *Medical Times*, July 11, 1885.

are not the thin adherent scales seen in lupus. A pustular and an erythematous eczema have been mistaken for acne rosacea, but the opposite error is more common.

The anatomy of acne vulgaris has been clearly demonstrated by Robinson. The disease begins by a plugging up of the gland, and the consequent production of a folliculitis. The inflammation may involve the periglandular tissues secondarily, but it differs from sycosis, by some considered as an acne, inasmuch as the latter is a perifolliculitis.

The treatment of acne resolves itself into the management of the constitutional state associated with it, and the measures to be adopted for the removal of the local lesions. If we were able to investigate thoroughly every case of acne—that is, not merely the condition of the person at the time, but his history, environment, and mode of life past and present—we could, if all the facts were correctly stated, without much doubt hit on the cause. There is a departure from the balance of health, and the disturbing agency may become easily discoverable, or may be very recondite. Whatever it is, it is not a mere accidental one, but something which, however slightly, disturbs and disturbs again the smooth working of the organism. It is in this way that indigestion and constipation, uterine and ovarian disorders, or sexual irregularities produce acne. Unfortunately we are not often in a position to obtain thorough and accurate information as to all the factors of the case; hence our inference is apt to be based on probabilities or incomplete premises, and our treatment must be to a corresponding extent empirical. After as carefully as possible weighing the evidence obtained, our endeavour must be made to correct what is faulty. It is in this way, rather than by any special drugs, that the disease can be readily cured. Constipation is to be overcome by dietetics as much, and more than, by compound liquorice powder, or cascara, the best aperients in such cases. Cascara often acts better in acne when combined with muriatic acid and cinchona, as in the following:

℞ Ext. cascaræ sagradæ fluidi . . ℥ii.-℥iv.
Acid. nit. hyd. dil. . . . . ℥ii.
Tinct. cinchona co. ad . . . . ℥iii.
Sig.—One teaspoonful in a wine-glassful of water after meals.

Even when the renal secretion does not show any marked departure from a healthy standard, good is obtained from the following mixture, which we owe to Dr. Bulkley :—

℞ Potassæ acetatis . . . . . ℥iv.
Tinct. nucis vom. . . . . ℥ii.
Ext. rumicis fluid, ad . . . . ℥iv.
Sig.—One teaspoonful, well diluted, after meals, three times a day.

Menstrual disorders must be treated on their merits. As acne is most frequently by far met with in unmarried women, the impossibility of forming an absolute opinion based on examination is evident, but a series of carefully arranged questions afford valuable guidance, due respect being paid to the natural diffidence of the patient. Hutchinson of Chicago[1] believes that the disturbance is in many cases of a hyperæmic nature. When such can be inferred he recommends the hot water vaginal douche. All the recent works on gynæcology praise the hot water treatment in all forms of inflammation of the uterus and of its appendages, and the rationale of its action has been most fully explained in an excellent paper by Dr. Milne Murray.[2] In the case of young women the method of employing the douche can be explained to the mother. The douche is at first used every night; then, as improvement takes place, at longer intervals, being continued indefinitely once a week. The water should be, as Dr. Murray shows, of a temperature of about 120° Fahrenheit. I have found this method of great value in some obstinate cases of acne.

Postponed, defective, or painful menstruation, in the absence

[1] *New York Medical Record*, May 29, 1886.
[2] *Transactions of the Edinburgh Obstetrical Society*, 1885-86, p. 53.

of an ascertained organic cause, is often ameliorated or cured by pills of permanganate of potass, as suggested by Ringer, made with vaseline and kaoline. Where there is anæmia, Blaud's pills or the mistura ferri composita in the interval, and the permanganate before the regular time for the period, have given me good results. The permanganate must be given, like the iron, immediately after food. When there is menorrhagia, rest at the period, combined with ergot or hamamelis, do most good; the hot douche may be used in the interval.

In young males, Hutchinson recommends the cold steel sound to modify the prostatic hyperæsthesia. This he passes once in three days. According to him, in one or two weeks the improvement is manifest, and in one or two months the skin is free from acne, scars alone remaining. Sherwell of Brooklyn also endorses this treatment, which I have not tried. The same result may be obtained, as far as lessening the prostatic irritability, by a nightly pill of—

℞ Camphoræ . . . . . grs. ii.
Ext. hyoscyam. . . . . grs. ii.
Ext. belladonna . . . . . gr. $\frac{1}{4}$.
——M.

Fiat pilulæ.

Sometimes there is additional advantage in prescribing small doses of the oil of sandal wood for a time during the day.

While the habit of masturbation may be learned from others, it is as frequently discovered independently by the boy himself, and practised in ignorance of its injurious effects. Incalculable good might be done were Mr. Wheelhouse's little *brochure*[1] placed in the hands of every boy of twelve or fourteen.

Acne vulgaris has a distinct relationship in many cases to struma, and cod-liver oil exerts in such instances a powerful

[1] *The Special Temptation of Early Life*, by C. G. Wheelhouse, F.R.C.S. Hamilton, Adams, and Co., 32 Paternoster Row, London.

influence in restraining the evolution of fresh lesions. It is best to order one full dose at bedtime. In similar cases Bulkley recommends glycerine in doses from a tea to a table spoonful after meals.

The avoidance of such medicines as stimulate the sebaceous glands, as the iodides and bromides, must be observed in all forms of acne, but in particular in acne rosacea of the climacteric period.

A thick sluggish skin has been mentioned as associated with acne vulgaris, and in the local treatment of this variety measures which will reduce the horny layer, and prevent clogging of the follicles by its overgrowth, constitute the most appropriate applications. Proceeding from the more simple to the more elaborate and severe, hot water forms one of those suitable to most cases, and which can be well used in conjunction with other remedies. The water should be very hot, and the face may be steamed for some time over the basin containing it before being douched by means of a sponge. This relaxes and softens the skin, and helps to dissolve the inspissated sebum, but, from the reaction which succeeds, it has a secondary tonic effect. It should, however, only be practised at night before retiring. With it may be combined the use of various soaps. Where the skin is markedly thick and greasy, strong potash soap may be employed pretty freely. We may use either the best soft soap, or this dissolved in spirit or eau de Cologne in the proportion of two parts of soap to one of spirit. This solution can be afterwards diluted with water as may be found desirable. A flannel or sponge moistened with hot water and then smeared with the soap, or dipped in the solution, is to be rubbed firmly over the skin of the face or back, and when this has been persevered in for a few minutes, the surface should be washed with clean warm water, and dried with some degree of friction. A dusting powder of oleate of zinc and powdered talc, or an ointment of carbonate of zinc in cold cream, should then be laid on.

Auspitz[1] long ago advised the use of sand soap to thin down the epidermis in acne, but this method was too rough for any but rare and exceptional cases. Recently, however, Unna[2] has caused finely pulverised marble to be incorporated with a soap containing an excess of unsaponified fat. This he calls *ueberfettete Marmor seife*. It can be used to much less resistant skins than the sand soap, while the hyper-fatty basis prevents drying the skin to too great an extent. Even this soap must be cautiously and tentatively used, and the effects watched. Another useful soap is the resorcin-salicylic one introduced by Eichhoff. The face is washed with this and warm water at night, dried, then thinly smeared with the resorcin-salicylic ichthyol paste.

Analogous to this is scraping the surface with the dermal curette. This may be done pretty vigorously so as to shave off the tops of papules, and lay bare the minute abscesses. It makes the face look very red for a time, but the after results are most satisfactory. Its use should be followed by douching or sponging with hot water. This scraping may in some cases be gently repeated once or twice a week.

We now come to some medicinal agents which have the effect of causing increased desquamation of the epidermis, and at the same time augmented activity of the sebaceous glands, which latter may perhaps be explained when we remember that these glands are but foldings-in of the rete mucosum, the resulting pouches having undergone a further development in a special direction. Four substances at least have this effect, sulphur, resorcin, perchloride of mercury, and ichthyol. Sulphur has, of all three, the most extensive application, and can be used either as an ointment or a lotion. Though as an ointment it can be brought into closer approximation to the skin, yet the form of lotion is usually the best.

[1] *Ueber die Mechanische Behandlung von Hautkrankheiten*, Wien, 1867.
[2] Volkmann's *Sammlung klinischer Vorträge*, No. 252, 1885.

℞ Sulphuris precip. . . . ℥i.-℥iss.
Glycerini . . . . ℥i.
Sp. vini rect. . . . . ℥ss.
Aq. rosæ, ad . . . . ℥iv.
——M.

The lotion to be painted on at night, after steaming the face and washing with one of the soaps already named. The lotion is to be washed off in the morning with warm gruel or thin rice milk strained from the rice, and the face powdered with Taylor's cimolite, or equal parts of oleate of zinc and powdered talc. Payne[1] thinks sulphur acts best in an alkaline form.

℞ Sulphuris præcip. . . . grs. 15.
Glycerini . . . . ♏30.
Sp. camphoræ . . . . ♏5.
Liq. calcis, ad . . . . ℥i.
——M.

When an ointment is preferred, one or two drachms of precipitated sulphur to an ounce of vaseline is the best combination. When sulphur is used after any lead preparation, an increase in the number of comedones is perceptible.

Rosorcin has the advantage over sulphur that it can be used alternately with perchloride of mercury. Thus a paste consisting of resorcin, oxide of zinc, and terra silicea, each a drachm, and lard seven drachms, may be applied at night, and a lotion composed of corrosive sublimate two to six grains, glycerine forty minims, orange flower water twelve drachms, and rectified spirit to eight ounces, sopped on gently during the day.

Perchloride of mercury is less certain than sulphur, and I seldom employ it except as an alternative, and then in combination with calamine lotion, in the strength of half a grain to the ounce.

Ichthyol is best applied as the *ueberfettete ichthyol seife*, or Unna's ichthyol soap. This can be used simply to wash with ;

[1] *Lancet*, Feb. 15, 1890.

or, if a more powerful effect is desired, the lather is not wiped or washed off, but permitted to dry, and remain as a coating all night.

The papules and commencing pustules of acne can be made to abort by the method suggested by Dr. Walter Smith—viz. to touch each with pure liquid carbolic acid, and then paint over with a coating of flexible collodion. This not only checks the burning pain due to the acid, but forms a colloid, and seals up the part. The scab which forms must be left undisturbed till it spontaneously drops off. With this any lotion may be used. It has the advantage over acid nitrate of mercury of not leaving a scar. When larger, the pustules and subcutaneous abscesses should be punctured with Kaposi's acne lancet, and the contents expressed; bleeding may be encouraged for a time by bathing with hot water. The deep and large collections of matter in acne indurata need incisions, sometimes more than once, with an iris knife. The pain of this can be lessened by touching the part previously with carbolic acid, which anæsthetises the skin. The red stains left behind by the acne pustules can be caused to disappear much more quickly, and the complexion restored to a normal state, by applying a moderately strong salicylic and creasote plaster muslin, as in lupus, the 20 : 40 being a suitable strength in most cases, for a week, changing the plaster twice daily. The plaster is then discontinued, and the tender surface dressed with the zinc ichthyol salve muslin till the epidermis is restored. The process may need repetition should the result of the first cycle not prove entirely satisfactory.

With all care and attention on the part of the medical man and the patient, progress is often slow, and fresh outbreaks of the disease take place unaccountably after an apparent cessation. Treatment, too, must at times be intermitted, from the stimulation of the skin, due to the remedies, becoming too great. The eruption of an odd acne papule or pustule or two from time to time cannot be entirely prevented, but their progress can be aborted by the means indicated.

Acne varioliformis yields best to scraping, followed by the application of black wash and a carbonate of zinc ointment, combined with acetate of potass, nux vomica, and rumex internally.

Acne artificialis soon yields to a removal of the cause, and the use of detergent and emollient washes and baths.

In acne rosacea the grade of the disease, and the age and circumstances of the affected person, must be taken into account in treatment. Such measures as lessen the liability of the minute vessels to become unduly dilated are to be adopted. These are both hygienic and medicinal. Thus sudden changes of temperature from cold to heat, or the reverse, or exposure to the glare of a fire or lamp, aggravate the disease. Any compression of the veins of the neck by band or collar should be discontinued, and alcoholic stimulants or hot or spiced dishes are inadmissible. An even and regular circulation of the blood throughout the body should be promoted by baths, of which the salt water spray is the best. Where this is not attainable, a useful substitute is the simple sponge bath, cold or tepid, in accordance with individual susceptibilities. The state of the digestive organs should be corrected, as far as this is at fault or is possible; the mixture of acetate of potass, nux vomica, and rumex will frequently be found serviceable. Ergot has also done good in some cases, though, whether this is due to its action on unstriped muscle in general—as has been assumed by some—or on that of the uterus alone, is not determined. Saline aperients and the mineral waters of Marienbad, Hunyadi Janos, and Friedrichshall, are valuable where constipation exists.

Locally, in the first stage of the disease, the redness may be much lessened by painting the parts with pure liquid carbolic acid, and then further covering this with a film of flexible collodion, which should be permitted to separate spontaneously. With this can be combined the use of the calamine lotion, to each four ounces of which a drachm of precipitated sulphur has been added.

Another form in which sulphur may be used, particularly in the type which resembles acne more than eczema, is Vlemingkx's solution, made somewhat weaker than usual.[1]

℞ Calcis vivæ . . . . . ʒi.
Sulphuris sublimati . . . . ʒii.
Aquæ . . . . . ℥x.
Coque ad ℥vi.

When this is used the face must merely be bathed with hot water at night, dried, and a thin coating of the lotion painted on and allowed to dry. In the morning the face should be bathed with thin starch or gruel, and powdered with cimolite. If too much reaction ensues the treatment must be discontinued for a time. If the skin stands the lotion well, it may be used of a slightly greater strength.

Where the vessels have become dilated or varicose, these should be split up longitudinally with a fine knife, and bleeding encouraged by bathing with hot water, or the tortuous radicles may be torn across with an acne lancet, and their continuity thus destroyed.

The hypertrophic form of acne rosacea can be very satisfactorily dealt with by the surgeon's knife, and the form and shape of the nose nearly restored.

We possess a number of admirable representations of acne. Acne punctata and comedones in G. H. Fox's *Photographic Illustrations of Skin Diseases;* acne vulgaris in the *Sydenham Society's Atlas,* Plate XXVI., and *Wilson's Portraits,* Plate I.; acne indurata in *Tilbury Fox's Atlas,* Plate LX.; the syphilide which resembles acne varioliformis in *Duhring's Atlas,* Plate U; acne rosacea in *Duhring's Atlas,* Plate E, and in a more tubercular form in *Wilson's Portraits,* Plate A P; acne hypertrophica in *Willis's Illustrations,* Plate 64.

[1] Stelwagon, *Philadelphia Medical News,* July 7, 1883.

CHAPTER XXIV.

PIGMENTARY AFFECTIONS

There are few elements in the skin about which we possess less precise information than its pigment. This may exist in two situations—the ordinary one, in which the deeper cells of the rete are stained more or less intensely, and the rarer, or at least the less conspicuous one, in which the corium is darkened in its texture. Our acquaintance is much more imperfect with this latter form, since the granular layer of the epidermis veils very thoroughly the subjacent structures from our view. Long-continued irritation, however, as from scratching, causes an intensification of pigmentation in both situations. This will not, however, explain the intensification in pigment in the areola of the nipple in pregnancy, as it occurs before the stimulation of suckling arises. May it not be a protective change, similar to bronzing by exposure? A third cause co-operates in rendering the skin darker,—retention of the outer layers of the epidermis, or a yellowing of the keratine through age. This is the essential reason of the dark hue of the skin in ichthyosis, and of the autumnal tints in advanced life.

Pigmentary alterations in the skin may be congenital or acquired. The congenital partake more of the nature of curiosities than of conditions possessing a practical interest. They constitute moles, smooth or hairy, which are seen on various parts of the cutaneous surface. These originate during intra-uterine life, and in their growth only as a rule increase with the enlargement of the territory occupied by them. Such pigmentary

moles are sometimes the starting-point of malignant tumours, usually melanotic sarcomata.[1] This latter change occurs more particularly under the influence of some external irritant.

There are also states of the skin in which there is a congenital absence of pigment—that known as albinismus, while, as a result of age, the hair commonly becomes white, though in exceptional instances it may retain its natural colour nearly perfect till seventy or more years are reached.

One of the simplest and commonest forms of acquired increased pigmentation is the *freckle* or *lentigo*. Freckles are chiefly seen in persons with red hair, but are by no means confined to such. They occur usually on the face, but may be met with on the arms or hands, and occasionally on other parts. They are not seen in the infant, and seldom in children under the ages of six or eight. They are mostly situated at the mouths of glands, assume the shape of spots of the size of a pin's-head or a lentil, and are of a yellow or yellowish-brown colour. Sometimes these run together, and then patches more extensive are formed.

Such spots have been popularly thought to be due to the action of the sun's rays in summer on parts exposed to these. While this leads undoubtedly to their aggravation and greater distinctness, it cannot explain all. If in winter the same spaces are stretched, the freckles are clearly distinguishable, though then their colour is lighter. A congenital disposition to their evolution must be presupposed, evoked by the actinic rays. It has been remarked that those whose skins are dotted over with freckles do not bronze or become uniformly darker, when exposed to a strong sun or a rough wind at sea, to anything like the same degree as such on whom no lentigines are found.

Since their presence is extremely disfiguring, various modes have been suggested for their removal. One of the simplest of

[1] See a Paper by Dr. Byrom Bramwell and the Author in the *Edinburgh Medical Journal* for 1886-87.

these is to touch each spot with pure liquid carbolic acid. The immediate effect is to cause the part to become white, and in many cases the freckle will be found to disappear quite satisfactorily, at least for a time. I am uncertain so far if a permanent cure results.

Another mode is by the employment of electrolysis, as in the removal of superfluous hairs as recommended by Hardaway.[1] Here the needle should not be inserted deeply, as we desire merely to influence the pigmented rete cells. It should thus be dotted gently and superficially over the freckle.

The following peculiar case, which was brought to me by Dr. Deverell, serves to link ordinary freckles with the rare affection called xeroderma pigmentosum.

74. J. S., twenty-seven. Seen on the 27th September 1886. Born in country, a brunette, with rather dark skin. When only a few weeks old her mother observed on her chest some spots like freckles. These gradually manifested themselves elsewhere, and are now most numerous on the forearms. There are none on the hands, or on the back of the neck, and she has few freckles on the face. There are some on the abdomen, a few on the upper arm, and on the inner side of the knee. None, therefore, on the exposed surfaces, since she has not as a rule gone with her arms bare, even as a child. They are symmetrical in distribution. On the forearm they are closely set, are dark brown in colour, and vary in size from that of a pin's-head to a pea. The larger seem to have arisen from the coalescence of smaller ones. They are not elevated above the surface. The back of the forearm as well as the front is studded with them. With the exception of sick headaches, she has been very healthy. At no time suffered from urticaria. There are neither leucodermic patches nor telangiectases.

On the 5th October 1887 the spots had become more numerous on the arms, and there were patches of brownish pigment, less deep in colour, on the back of the forearm. Other-

[1] *Journal of Cutaneous and Venereal Diseases*, 1885, p. 102.

wise no change had taken place. No other member of the family was similarly affected.

A step further, and we encounter those fatal and progressive forms of melanosis, originally described by Kaposi in 1870 as xeroderma pigmentosum, and of which he, as well as Neisser, Vidal, and Pick on the Continent, Taylor, Duhring, and White in America, Radcliffe Crocker in London, and McCall Anderson in Glasgow, have recorded since then additional examples.

The complaint begins as a rule in the course of the first or second year of life, though in a few instances it seems to have commenced as late as the ninth or even the sixteenth[1] year, and on the skin of the face of a previously healthy infant there appear red spots, which on fading leave behind yellowish marks, in general appearance very like freckles. Sometimes no erythema precedes the pigmentation of the skin. The primary spots are seen first either in early summer or late spring, and a species of sunstroke has been presupposed in some cases. Steadily, but slowly, the spots become more numerous, darker in hue, and distributed over a wider area, affecting in turn the neck, the backs of the hands, and the forearms, being, however, for long limited to the exposed parts of the body.

Additional lesions are in time superadded. Small stellate telangiectases appear as pink spots between the macules. Some of the macules themselves are absorbed, and their place is occupied by leucodermic areas. Sometimes pustules form, or superficial abrasions, which are covered with honey-like crusts. The skin becomes thin, dry, and desquamates as fine scales. These features, when fully developed, produce a picture extremely characteristic and remarkably uniform in all the recorded cases.

After some years the disposition to become dry on the part of the skin increases, the surface acquires a rough appearance here and there, and on some of the pigmented spots, which have assumed considerable proportions, the papillæ become hyper-

[1] Taylor, *New York Med. Record*, March 10th, 1888.

trophied, a warty form of epithelioma develops, and fungating tumours are formed. These epitheliomata augment in number and penetrate more deeply, suppurate extensively, and finally wear the patient out. The mean of duration, according to Vidal, is between ten and twelve years; that of life is not yet ascertained.

The sarcomatous degeneration of pigmentary moles has been already alluded to. In their case some injury has usually lighted this up, but in xeroderma pigmentosum the transformation is spontaneous. This is comparable to that which sometimes occurs in leucopathia buccalis or linguæ, those white patches which form on the tongue, and which may eventually become cancerous. Kaposi[1] explains the occurrence of epithelioma at such early ages as due to the rapid changes going on in the epithelial layer, and affecting the papillæ and pigment cells.

One peculiarity in xeroderma pigmentosum has not been mentioned, viz. that in one family the boys, in another the girls, are affected—seldom, indeed, individuals of both sexes in the same family.

The treatment of such cases has been hitherto quite unsatisfactory. It is true many of the cases still survive, and Taylor, Duhring, and Pick believe that the progressive tendency to malignant degeneration is not equally marked in all. Unna[2] thinks that some retardation of the process, perhaps even more, might be accomplished were the exposed parts of the body shielded from the sun's rays at the very beginning of the disease. Since it may be the chemical rays which cause this, a red veil, which was found to protect in a case of extreme sensitiveness to sunlight recorded by Veill,[3] might prove of advantage.

Passing from those pigmentary anomalies which can be connected directly or indirectly with some congenital tendency,

[1] *Wiener med. Wochenschrift*, October, 1885.
[2] *Monatshefte für praktische Dermatologie*, No. 9, 1885, p. 285.
[3] *Vierteljahresschrift für Dermatologie und Syphilis*, 1887.

there are others not apparently so associated. These are, first, the pigmentations arising in certain physiological or pathological states, or from drugs; second, those which follow external irritants: and thirdly, those left behind after the disappearance of some diseases of the skin.

The pigmentary affections associated with physiological states are illustrated by the darkening round the eyes at each menstrual period, seen markedly in some women. In children, too, gastric disturbances are in some the cause of dark rings round the eyes. During pregnancy large patches of pigmentation appear on the forehead, and occasionally on other parts of the face in some, and alter the countenance in a remarkable manner. These are apt to recur in successive pregnancies, and only finally fade with the cessation of the periodical loss. The term *chloasma uterinum* has been applied to these latter.

Examples of those due to pathological states are seen in the cachectic discolorations met with in association with cancerous tumours of internal organs—sometimes in phthisis, and in Addison's disease.

External irritants cause, in some more than others, increase in pigment. A mustard poultice is quite harmless to many, yet in some deep staining of the skin may succeed its use, and may not finally disappear even after years. Chrysarobin induces an intense hyperæmia, often of a purplish hue, dermatitis, and marked pigmentation, when used too copiously or on certain skins. The staining, however, soon disappears. Arsenic when long continued, even in small doses, produces in certain individuals a yellowish or brownish coloration of the skin, which, however, slowly fades when its use is abandoned. Much more permanent is the staining, termed *argyria*, due to the administration of a salt of silver for a protracted period. In such cases the parts chiefly exposed to the sun's rays become a slate blue, but nearly every part of the body may be tinged. In some conditions, where scratching is freely and for long indulged in, as in prurigo and in pediculosis corporis, the skin assumes a dark

brown colour; in the latter case I have seen it almost black. But a personal element must here come in, as all do not alike suffer. Long-continued congestions of the skin, particularly in the lower limbs, as round old ulcers, are followed by pigmentation, affecting the corium as well as the rete.

Pigmentary deposits are also left after the disappearance of some skin diseases. Lichen ruber is one, and this has in its case been already fully dealt with. In syphilis, too, pigmentary stains are left after the macular, and more rarely the large papular syphilide, more frequently after the small papular, and indeed sometimes accompanying its evolution. Only in the latter case can we speak of treatment. This is that called for in all forms of eruption; but these pigmentary deposits yield but very slowly to mercury, either administered internally or applied locally.

Lastly, there is a form of misplacement of pigment not very uncommon. This is known as *leucoderma* or *vitiligo*. In persons commonly between the ages of ten and thirty, white spots appear on the skin. The neck is a common situation, but it may be anywhere. These are round at first, and may continue so, or they become larger, or may assume irregular shapes. The edges of the white spaces are usually, but not invariably, deeper in hue than the skin at a little distance off. The pigment would seem to have been chased, as it were, from the centre, and to have become heaped up at the periphery. No other alteration takes place in the skin. The hairs, if such are found on the whitened patches, participate in the change. The process extends till nearly the whole surface may lose its natural pigmentation. The disease would seem to be more common in the darker races, but in them, too, it is more conspicuous. The condition may fluctuate, according to some authors, increasing in winter and diminishing in summer. There is usually a certain degree of symmetry observed, which is, however, seldom absolute. In females the pigmentation sometimes increases at the menstrual period. In one instance

the disease seemed to have been started by the chloasma of pregnancy.

On exposed parts something may be done to hide the deformity by staining the whitened portions of skin with walnut juice; but since the cause and pathogeny are alike unknown, any rational treatment is at present impossible. An attempt may be made to lessen the discoloration by washing the affected portions of skin with soft soap to remove the greasiness of the surface, and the peroxide of hydrogen may be applied to blanch the discoloured area.

For illustrations of freckles we must consult *Hebra's Atlas*, Heft VIII., Tafel 4; and in the same fasciculus, Tafeln 6 and 8 respectively will be found to represent chloasma uterinum and cachecticorum.

Xeroderma pigmentosum is well portrayed in the November number of the *Annales de Dermatologie et de Syphiligraphie*, 1883. Leucoderma finds a place in *Duhring's Atlas*, Plate M; *Wilson's Portraits*, Plates H and A; and in the *Sydenham Society's Atlas*, Plate X.

CHAPTER XXV.

ICHTHYOSIS.

The surface of the skin in complete health presents a somewhat unctuous or greasy aspect, and this may be both increased and diminished under certain morbid conditions. A dry harsh skin is not an uncommon feature, but may be intensified to a degree which, when widely spread, is called xeroderma; when limited to the neighbourhood of the hair follicles, is named lichen pilaris; or, when confined to the palms and the soles, is known as tylosis. A still higher grade is the true ichthyosis hystrix, in which the epidermic accumulations become veritable spines or horny growths.

All these are spoken of as congenital ailments, yet this is by no means strictly true. Though what is called ichthyosis congenita, in which children are born prematurely with a skin too tight for them, and covered with thick plates of hardened epithelium, is regarded by many as merely an extreme form of ordinary ichthyosis,[1] this can scarcely be proved. Nearly all such infants die soon after birth, but of those which survive not all continue ichthyotic.[2]

The relation which the vernix caseosa has to ichthyosis has not been made out. It will be shown that ichthyosis and xeroderma are not mere modifications of seborrhœa; yet in some instances of ichthyosis not only has the vernix been abundant, but an ichthyosis congenita has become a permanent one. In

[1] Hutchinson, *On Rare Diseases of the Skin*, p. 172.
[2] Hebra, *Diseases of the Skin*, Sydenham Society, vol. iii., p. 59.

an instance related by Dr. G. H. Fox,[1] and illustrated by an excellent chromo-lithograph, a primipara was delivered of a child at the eighth month: the vernix caseosa was abundant, and when washed the skin was smooth as if polished, and of a deep red colour, and looked as if varnished. The skin was so stiff and tight that the limbs could not be moved, and it could scarcely cry or suck. Under inunction with cod oil, and the internal administration of the same, and of iodide of iron, scales which had formed peeled off, and about the fifth week the skin had become, except the face, soft and pliable, though still deep red and shiny. When four years old, though fairly healthy, the child had ichthyosis to a marked extent on the trunk, the epidermis being broken up into polygonal horny plates. In the fissures the pinkish colour of the intervening skin could be seen.

As a rule, however, the subjects of ichthyosis are born with skins which to all appearance differ nothing from the normal state. Within the first two years of life signs of the complaint commence to manifest themselves. If we are to believe the testimony of mothers—which in this respect is almost too uniform to be erroneous—the malformation, originating at one or more points, travels over the surface at the same time that it becomes intensified in various localities.

The slightest manifestation is the heaping up of the epidermis round the hair follicles, or an increased papillary growth. This is quite common on the outer aspect of the upper arm in both sexes. The skin feels rough, dry, and file-like, and this condition gives rise to much annoyance in the case of young ladies. The same thing is found on the leg, where it seldom occasions remark. It may, however, here be the cause of complaint, as in the instance of a gentleman, who said that as a lad his relatives objected to sleep with him, as he scratched their legs severely when he moved suddenly in bed.

75. Miss G., twenty-two, a fair-complexioned healthy girl.

[1] *Journal of Cutaneous and Venereal Diseases*, April 1884.

Has lichen pilaris on outer side of upper arm and outer side of thighs ; red, hard, shotty, acuminate papules seated at hair follicles. The skin generally is dry and non-perspiring. Ordered to wash every night with Unna's over-fatty basic soap and hot water, and to apply an ointment B. naphthol, gr. x., cerati Galeni, ℥i. This removed the deformity.

The same condition can occasionally develop later in life.

76. W. D., thirty-five, a healthy well-grown man. Does not perspire much. He noticed that certain parts of his body became rough and harsh, and this did not remain limited to these, but extended. I saw him six months after. The worst part is over the sacrum, where the skin resembles a nutmeg grater. It is closely covered with minute conical papules, each perforated by a small hair, and of the same colour as the skin. When one of these is turned out, soaked in liquor potassæ, and examined, it is found to consist of a bed hair (one without a medulla), set in the middle of a series of epidermic scales piled up edgeways. No improvement was effected by a course of treatment with over-fatty soap and resorcin ointment, so he was directed to paint the affected parts with Vlemingkx's solution every few days, and take Turkish baths. A month later was well.

Ichthyosis, again, is at times limited to the palms and soles, parts which are usually spared in all but the most severe and widespread examples of ichthyosis hystrix. The following are two instances.

77. M. G., thirty-five. The palms of the hands and the soles were the only places attacked. The skin of the rest of the body was soft and natural. The entire surface of each palm, and only the palm, was dry, horny, and rough. On the soles the epidermis had grown into a hard plate nearly half an inch thick. In parts this had broken off, and the edges of the gap so produced rose up perpendicularly like a wall. The diseased areas were marked by a distinct line at the point where the sole ends in health at the sides of the foot. When the horny ac-

cumulation was struck with a solid object, it resounded like a piece of board. He usually softened the mass and pared it down, but had permitted it on the present occasion to grow for six months, to see, as he expressed it, how thick it would become. The nails, too, elongate rapidly—as much as a quarter of an inch in a fortnight. He could not walk, and remained constantly in bed. The condition began in infancy. His father and sister were similarly affected.

In the following case the hands alone were affected.

78. M. D., nineteen, healthy young man in business. Does not perspire much, still no general ichthyosis. The right and left palms, the former most severely, are covered with dense horny epidermis, so hard that he cannot close the hand. The surface of the fingers is also similarly affected. The whole dense mass could be made to exfoliate, and the surface rendered smooth for a time by Unna's salicylic plaster muslin, but this was only temporary; no ointment seemed capable of arresting the reproduction of the callous growth.

While these exemplify the more local forms of ichthyosis, the diffuse variety seldom affects the entire surface; the face, the flexures of the elbow and the ham, and the palms and soles as a rule escape entirely, while the rest of the body may be more or less extensively affected. On a general view the skin looks dirty, and varies from a yellowish tint to a grey or even olive hue. The surface feels dry, harsh, and rough, and presents numerous lines which cross at various angles. The more intense the ichthyosis the wider these lines are apart. They often enclose lozenge-shaped spaces within which the epidermis is thickly piled in the form of plates or scales. These plates can be peeled off, but the surface beneath does not bleed like psoriasis when the scales are picked off sufficiently deep. Sometimes the elbows and knees and the front of the shin, at others the abdomen, chest, and back, or merely, as Mr. Hutchinson has noted, the margins of the axillæ, present this deformity in well-marked degrees. The edges of the horny plates may be

detached, the centre alone continuing firmly adherent, or the entire mass may be closely bound down, and the margin may be thinner than the more central part. When by treatment the horny accumulations have been thinned down to natural, or nearly natural limits, the true nature of the lines between the plates becomes manifest. These are really atrophic lines, and correspond to those lineæ albicantes seen on the abdomen or the mammæ of those who have borne children. In lineæ albicantes, however, the atrophy is a tension one. The skin stretched beyond its elastic capacity yields in various directions, and these, on the subsidence of the distention, persist as glancing atrophic lines. But in ichthyosis the atrophy is a pressure atrophy, in part at least. The hard edges of the epidermic plates, by the pressure which movement imparts, cause thinning of the skin. Those thinned parts stand up as fine ridges between the plates, and the true atrophic character is only brought out when the skin is stretched between the fingers, then the elevated ridges disappear, and the thinning of the skin becomes visible. In lineæ albicantes or striæ atrophicæ, the efficient cause is over-distention from within ; in ichthyosis the pressure exerted from without is a main factor, though the diminished elasticity of the skin as a whole, in consequence of the epidermic accumulations, plays also a part.

Perspiration is absent on the ichthyotic areas, the unaffected portions of the body, the face, hands, and flexures of the joints making up in some degree by increased activity.

Mr. Nayler has made the observation, "that though at its origin the face is usually involved, the disease in its progress sometimes seems partially to forsake this part, and to become finally more confirmed on the loins and legs." The following case illustrates this among other points.

79. T. C., nine, the eldest boy of a family, none of the members of which, so far as known, had any similar ailment, was healthy till two months old, when his mother noticed that on removing the binder the skin of the abdomen seemed to

throw off thin scales; at the same time the forehead was affected similarly. When seen in February 1887 the face was ruddy and the skin normal. This now sweats freely, but did not till he was between five and six years old, then perspiration began to appear first under the left eye. The skin of the entire back, the chest, abdomen, and loins, and to some extent the thighs and legs, though the latter slightly, is dry, harsh, dirty, blackish, and wrinkled. These wrinkles can be effaced by stretching the skin, and are then seen to be projections outwards—atrophic lines—which are doubled and squeezed outwards by the harder plates. The disease fades off towards the neck, and does not affect the hands or feet. He used to be attacked every few months with biliousness, the temperature rose, and he became sick. These symptoms were probably referable to gastric and duodenal catarrh, but he is not subject to colds or bronchitis. It is only recently that the limbs have been invaded; it seemed to travel downwards to the thighs and arms.

He was ordered to be washed every night with Unna's over-fatty soap and warm water, and then to have an ointment composed as follows well rubbed in :—

℞	Resorcini	ʒii.
	Ol. sesami	ʒiii.
	Adipis, ad	℥iii.

On the 23d April the skin was reported to be everywhere smooth, but on the trunk it has a dark aspect, and is covered with fine prominent wrinkles. The legs below the knees are absolutely natural. The proportion of resorcin was slightly increased, and combined with lanoline and simple ointment.

In the hystrix form the plates are replaced by spiny prominences, which may even attain the proportion of horny outgrowths. The condition may be limited to certain parts, or be nearly universal.

In all cases there is a greater or less improvement in summer,

the sufferers become much worse in winter, and feel the cold. When a certain degree of intensity has been reached, the disease ceases to grow worse, hence a moderate xeroderma does not necessarily advance to an ichthyosis hystrix.

The action of the vapour of petroleum, or contact with paraffin in the process of its distillation from shale, causes usually an acne, but in rare instances it does more, and may produce a disease which bears some resemblance to the extreme varieties of ichthyosis. A case which was in Mr. Duncan's ward, No. 18, in January 1884, illustrates this.

80. R. H., fifty, Bathgate. This man had worked for many years in oil-works, but only two years before had dry spots showed themselves on his arms. These increased in density, and have now developed in parts into actual horns. The forearms are covered with rough, dirty yellow, sebaceous crusts, dark horns, some nearly an inch long, smaller filiform ones, comedones, and coarse dark hairs. But he cannot positively say whether his arms are now more hirsute than before. The disease seems to begin as a comedo, then a small elevation forms, and this develops either a crust or a horn. When the horn falls off a fungating surface remains. These on examination were found to be epitheliomata. The epithelial processes in the sections could be seen to dip through the fascia even with the naked eye, so well were these pronounced. As a result of soaking in soda solution, all the crusts and horns fell off. The epithelioma which results occasionally from contact with paraffin has been described by Dr. Joseph Bell, and the resemblance to ichthyosis has been remarked by Schuchardt in an interesting description of paraffin epithelioma.[1]

Mistakes can scarcely be made as to the nature of the complaint. Seborrhœa sicca of the general surface can hardly be confounded with it.

The diseased process in ichthyosis depends on an increased

[1] Schuchardt, *Beiträge zur Entstehung der Carcinoma*, in Volkmann's *klinischer Vorträge*, No. 257.

formation of epithelial cells,[1] with a simultaneously augmented disposition on their part to cornification. Excessive secretion of the sebaceous glands cannot bear much part in this, since these, as well as the sweat glands, are markedly reduced in size, and transformed into cysts. The ducts of the coil glands also are blocked and their walls thickened. The papillæ are sometimes very much elongated. This increases the secreting area, and augments the epidermic formation. The greater thickness of the epidermis is due to its not being continuously exfoliated; it is retained too long. Few persons have any idea of the amount of desquamation which is constantly taking place from the cutaneous surface. When a bandage is retained for a week or ten days in position on a limb, the skin on its removal will be seen covered with branny flakes, which have been prevented from separating. The friction of the clothes or washing removes the excess under ordinary circumstances, but when the horny layers are too firmly adherent, as in ichthyosis, we have scales, plates, or horny masses produced. The ultimate cause of ichthyosis is unknown, but a deficient action of the sweat glands must have much to do with it, as the insensible perspiration permeates the corneous layer, and maintains its cells in a pliant and succulent condition. The *rôle* of the sebaceous glands is much more limited. I am scarcely inclined to endorse the ingenious suggestion of Mr. Hutchinson, that ichthyosis "is an intensified form of psoriasis, beginning at a very early period, and deriving peculiarities accordingly,"—that in fact it is a transmuted form of psoriasis. One circumstance is much against this. Psoriasis is very common in Scotland; ichthyosis is very rare. The skins of those affected with psoriasis are not as a rule remarkably dry when free from the eruption, and in an instance in which a mild form of ichthyosis co-existed with ordinary psoriasis no modification of the latter disease was observable. Jablonowski[2] states that ichthyosis is endemic

1 Esoff, Virchow's *Archiv*, 1877.

2 *St. Petersburg med. Wochenschrift*, 1884, No. 40.

among two Albanian tribes residing on the shores of the Adriatic. Even young children are attacked, and the whole body, and even the face, is affected.

It may be said that the very mild forms of ichthyosis are not rare. Of the exact frequency of these we have certainly no data, but it is my impression that, while there may be many persons in whom the skin is dry and unperspiring, yet these are mere individual peculiarities which scarcely trench on the domain of disease.

In ichthyosis there is not increased exfoliation, as in pityriasis rubra or exfoliative dermatitis, there is retention of the increased epidermic production. Whether in the first instance the sweat and sebaceous glands are structurally altered is uncertain; but the pressure of the plates hemming in the secretion must in time lead to those changes which Esoff has described. This brings us to a question which Unna[1] has started: Is ichthyosis congenital and hereditary? He replies, "No one has yet proved this." It is true that it is met with in several members of the same family; but this proves as little as the corresponding and repeated occurrence of psoriasis in certain families. "It belongs to those diseases which, by reason of the manner of their manifestation (their rarity as a rule, their fixed localisation), only permit the conclusion that for their development they require a determinate disposition of the skin (which may be hereditary), while the peculiar cause may lie somewhere else."

The incurability of the complaint under ordinary circumstances, and with our present available modes of treatment, is no proof of the congenital nature. Not long since Hebra's prurigo was said to be equally incurable. It might be removed for a time, but was sure to recur sooner or later, usually sooner. It is now universally admitted that, attacked early enough, prurigo is curable; while even in its fully developed form we now possess remedies which exert a far greater effect on it than any which were accessible some years since.

[1] *Monatshefte für praktische Dermatologie*, Bd. ii. p. 197.

Now the same thing may be said of ichthyosis. It is not unlikely that, were the disease dealt with promptly and efficiently in early childhood on its very first recognition, its migration would be arrested, and, if not cured everywhere, it might be confined to small areas. We may cite lupus as an example of this: the cure of lupus when the nodules are small is now easy; how obstinate it becomes when permitted to spread is but too well known.

The remedies for ichthyosis are such as will hasten exfoliation. Alkaline baths are valuable, followed by emollient applications, but Unna has recognised the value of sulphur, which is acknowledged to be one of the best as it is one of the safest of those substances which, when rubbed on to the skin, cause increased desquamation from its surface. Unna recommends a five per cent to ten per cent sulphur ointment to be rubbed in nightly, or sulphur can be volatilised by heat, and this deposited on the inner surface of the flannel underclothes, and thus the epidermis be caused to flake off. The sulphurisation of the clothes must be repeated every four to six days. Still better than sulphur, and free from its unpleasant smell, is resorcin, which Andeer[1] first suggested as a remedy in ichthyosis. This can be applied as a three per cent ointment on the parts where the disease is less, as a five per cent to twenty per cent on the more severely affected parts. In a case he cites, where the whole body was energetically rubbed over, no resorcin poisoning resulted, though the urine showed an olive-green fluorescent staining. It is doubtful if the addition of lanoline to the salve will prove of much real advantage; a mere local action of the resorcin is desiderated, and lard or simple ointment suits well as an excipient, while the experiments of Guttmann[2] seem to show that lanoline possesses no advantage over lard, even were absorption desired.

In my experience, which extends to a number of cases of

[1] *Monatshefte für praktische Dermatologie*, Bd. iii. p. 365.
[2] *Zeitschrift für klin. Med.*, 1887.

moderate intensity, the best plan is to remove the epidermic accumulations by washing with over-fatty potass soap and warm water, or with Unna's over-fatty marble soap, which grinds them down, then to anoint the skin with the resorcin salve above mentioned. When the integument has thus been rendered smooth the disease can be held in check, provided the skin is washed at regular intervals with the over-fatty resorcin and salicylic soap introduced by Eichhoff, and made by Douglas of Hamburg. In more severe examples the more intense effect of Vlemingkx's solution of sulphide of calcium might precede the resorcin and hasten the exfoliation. It is, however, from the treatment in early life that any lasting benefit can be anticipated.

Hebra[1] notes that an attack of measles, in a girl about eighteen, caused a previously existing ichthyosis simplex wholly to disappear; and a high degree of ichthyosis hystrix diffused over the skin, but especially affecting the hypogastrium, was permanently cured by a severe attack of variola. Instigated by these observations, and in order to test the influence of the exanthemata when aided by appropriate treatment, a careful watch has been kept for any case of ichthyosis among those admitted into the City Hospital during the last two years; three only have presented themselves.

81. M. T., domestic servant, twenty-four, has had ichthyosis since infancy affecting the greater part of the body, but especially pronounced on the legs below the knee. Six years ago had enteric fever, was ill five weeks, and during the ensuing summer perspired a little on the body, but not before or since, except on the soles and more rarely on the palms in the warm months. The rash of measles was first noticed on the 3d of February 1888, on the arms, and she was admitted the same day. The eruption was not well defined on the face, though fairly distinct on the chest. A hot mustard bath on the evening of the 4th caused the skin to become red, but did not further develop

[1] *On Diseases of the Skin*, vol. iii. p. 61.

the eruption. The bath was repeated on the 5th, but it was now too late to have any effect on the rash, and she became sick after it. The treatment with Unna's soap and resorcin ointment was commenced on the 7th, and to aid the action of these one-twentieth of a grain of pilocarpine was injected subcutaneously on several evenings; this lowered the temperature in course of an hour half a degree, and induced moisture of the skin but no actual sweating. When dismissed in the end of February, the skin everywhere was soft, pliant, and smooth,—no ichthyosis. In October, though no further treatment had been pursued, she continued well, though the skin was perhaps in places a little too glossy.

82. A brother and sister, aged fifteen and thirteen, were admitted into the City Hospital in March 1888 with scarlet fever and moderate ichthyosis. They desquamated freely, and were treated during convalescence with Unna's over-fatty marble soap and resorcin ointment, and at the end of six weeks, when they returned home, were freed from their ichthyosis. In November 1888, no treatment save ordinary baths having been employed since April, the dry condition of the skin had returned, but in their mother's opinion not nearly to the same extent.

It would thus appear that measles, particularly if aided by suitable treatment, has a considerable influence in lessening, if not in curing ichthyosis; scarlet fever, under similar circumstances, notwithstanding the desquamation, much less.

The spinous formations in ichthyosis hystrix can be removed by painting them with a solution of salicylic acid ʒii., in collodium flexile ʒi., but they are in time reproduced.[1]

Ichthyosis simplex is represented in *Duhring's Atlas*, Plate F. *Wilson's Portraits*, Plate S, and *Tilbury Fox's Atlas*, Plate XLIX. Ichthyosis hystrix in the *Sydenham Society's Atlas*, Plate V.

[1] Liveing, *Handbook of Skin Diseases*, 1887, p. 273.

CHAPTER XXVI.

WARTS AND HORNS.

Besides those warty formations which are found in lichen, ichthyosis, lupus, and occasionally in psoriasis and eczema, we meet with a like papillary hypertrophy of more limited extent. Some varieties of warts tend to appear and vanish in an incomprehensible manner. Charms to cure warts are still employed in various country districts. Mr. Hutchinson has related a case in which a gentleman had his face literally covered with warts, which had been present for months. A few were touched with the acid nitrate of mercury, yet all were gone in course of a few weeks and did not return.[1]

Hebra speaks of congenital and acquired warts, but the latter alone deserve the name; the others are really nævi, though at times exhibiting a warty aspect. Though softer in their consistence than most of the species with which we are in this country familiar, the raspberry-like excrescences which develop in the disease known as frambœsia have a mode of evolution much like that of warts, though there are constitutional symptoms superadded.

Six forms are commonly recognised.

(1) *Verruca vulgaris.*—This is that species met with so frequently on the hands of young persons, chiefly below the age of puberty. The mode in which warts arise is well studied in these. A small, dense, smooth nodule the size of a pin's-head is first seen seated beneath the epidermis, and for a time, as this

[1] *Archives of Surgery*, vol. i. p. 213.

becomes larger, the cuticule remains unbroken, and the surface is still smooth and horn-like. The papillæ, however, elongating, break through the epidermic covering, which persists as a horny rim, enclosing the thread-like elevations of which the wart is now seen to consist. If of any size, the wart when fully formed resembles a coarse brush, is dark in colour, partly from an alteration which has taken place in the keratine, more however, from dirt which accumulates within the plush-like texture; for when the wart is well soaked in hot water and gently scrubbed with a nailbrush and soap it assumes a yellow hue, or becomes pink if the skin is delicate or well injected with blood. It now presents a round button-like protuberance closely adherent to the skin. Warts are seldom present in numbers in those whose hands are well cared for and protected, but when these are neglected, seldom washed, and mud and dirt allowed to dry on them, there may be very many. Their most common seat is the hands or fingers. If untreated they as a rule spontaneously disappear at puberty; sometimes, however, they may persist till later, or even crop up in adult life.

The rare disease fully described and admirably illustrated by Dr. Pringle[1] called congenital adenoma sebaceum somewhat resembles verruca vulgaris. "The eruption consists of indolent, firm, whitish, or yellowish, sago-grain like, solid papules or tumours of minute size, embedded in the skin at different depths, or projecting from it, and varying in size from that of a pin's point to a small pea. Though thickly crowded together, these lesions have all a distinct boundary line and never appear to coalesce to form composite patches. There is no solution of epidermis, or anything suggestive of excretory duct over any of them, but when pricked with a needle, white matter can be easily expressed from them, which is recognisable under the microscope as inspissated sebum."

The small, dense, semi-translucent tumours of molluscum contagiosum may resemble them in their early stage. But

[1] *Brit. Journ. of Dermatology*, January 1890.

these are usually present on the face, breast, or eyelids, sometimes on the arms, and have a depression in their centre from which a whitish fluid can be expressed.

Both Fox[1] and Allen[2] have met with cases in which both ordinary warts and molluscum contagiosum were simultaneously present, and the former suggests a possible common cause or some close connection. In Allen's cases he found in some a flat variety of wart with a pink border, which had no central opening, were of firm consistence, difficult to remove, did not present the gland-like structure, and were situated on parts not usually occupied by warts.

In 1881 Dr. Thin exhibited at the Medico-Chirurgical Society in London a healthy young woman, aged twenty-one, whose face and the backs of both hands were studded with innumerable warty growths. These began three or four years before, and continually increased by the formation of more. The combined area of the growths much surpassed the combined area of the unaffected skin. Microscopic examination proved them to be epidermic tumours, characterised by long narrow papillæ and deep, broad, interpapillary cones. An excellent chromo-lithograph accompanies the paper in the *Transactions*.

(2) *Verruca digitata.*—These are less common, and are found almost exclusively on the scalp. Their outline is often marked by irregularities, and they resemble an insect when not closely examined. The enlarged papillæ are long, and often free at their extremities, which imparts a ragged appearance. They are chiefly met with on the head of adult females, and cause pain and annoyance when the hair is dressed. I have traced their origin in some cases to the use of rancid oil or pomade.

(3) *Subungual warts.*—Warts of a softer consistence occasionally form under or by the side of the finger nail.

(4) *Verruca filiformis.*—These are long, narrow, thread-like warts, often seen on the neck, or occasionally on the eyelids.

[1] *Transactions of the American Dermatological Association*, 1887.
[2] *Journal of Cutaneous and Venereal Diseases*, 1886, p. 241.

According to some they are due to the hypertrophy of a single papilla; to others they are emptied sacs of an enlargement of a sebaceous gland. It is much more probable that they are the atrophied portion of skin which once contained a small fibroma.[1]

(5) *Verruca plana or senilis.*—In this form the papillary hypertrophy is either wanting or much less marked than in any of the foregoing. It first shows itself in the form[2] of collections of scales hardly elevated above the general surface, somewhat darker in colour than the surrounding skin, irregularly circular or oval, and, carelessly looked at, resembling freckles of a light tint. They are seated in greatest abundance, at first at least, on the backs of the hands and upper half of the face. They may also appear over the forearms, the chest, and back. In their most advanced development they present elevations an eighth of an inch above the general surface, consisting of dry, horn-like scales, which vary in colour from the faintest yellow to the deepest black, and which may be removed with a little violence by the nail or a blunt-edged instrument, leaving exposed a superficial excoriation. The mass of the excrescences is composed of horny epithelial cells, more or less pigmented. They rarely appear before the age of fifty, and are seldom very conspicuous before that of sixty-five or seventy. They are much less likely to occur upon persons who have kept their cuticle and sebaceous glands in proper order throughout life, by sufficient use of soap, than in those who have neglected this custom.

While in many cases these are innocent, in some they form the starting point for a rodent ulcer or an epithelioma. Schuchardt[3] found enlargement of the papillæ in the sebaceous warts of old people, and has traced out the connection between

[1] Taylor, "Development and Course of Molluscum fibrosum," *Journal of Cutaneous and Venereal Diseases*, February 1887.

[2] J. C. White, M.D. "The Old Age of the Skin," *Boston Medical and Surgical Journal*, November 23, 1882.

[3] Volkmann's *Sammlung klinischer Vorträge*, No. 257, 1885.

these and cancer. Ordinary warts, however, sometimes form on the faces of elderly people, or after persisting there, may degenerate also into malignant growths. Neumann gives an excellent illustration of verruca senilis in Tafel XL. of his *Atlas of Skin Diseases.*

83. Miss T., aged seventy-seven, consulted me for some warty formations on her nose which had lasted for some time. Her skin was much shrunken and deeply wrinkled, and of a parchment yellow. On the sides and tip of the nose, and also on the adjoining parts of the cheeks, were round hard concretions, dark yellow in colour, which could be removed by the nail, and left behind a pit or shallow excavation, slightly excoriated on its surface. I recommended the application of a solution of salicylic acid in flexible collodion, ʒi. in ℥i., but this did not cause their disappearance, and they were finally and permanently removed by touching them with aromatic vinegar. A smooth hollow was left in the skin.

84. Miss M., sixty, asked me about a solitary wart on her cheek, which, though long there, had latterly begun to enlarge. It was a dry, hard, warty growth, one-sixth of an inch across, and the minute vessels round it were somewhat injected. It was uneven on its surface, and a true wart. The solution of salicylic acid in this case caused it to shrivel up, and it fell off in three weeks, leaving no trace. The collodion was applied daily.

Keratosis senilis may be removed by frictions with soft soap and the subsequent application of a paste daily, viz.—

Acid salicylic	ʒss.
Lanolini, vaselini, zinci oxidi, pulv. amyli, aa.	℥ii.

——M.

Or by touching each daily with aromatic vinegar. In some cases, especially on the face, the wart should be excised.

(6) *Verruca acuminata*, the so-called venereal wart, is not exclusively met with in those who have suffered from gonorrhœa, and is not due to syphilis. While these warts tend to be tufted

or to form bunches, they may occur singly, and produce fleshy excrescences, roughly resembling a head of cauliflower in shape. They are pink or reddish, but may present a bright red or a purplish hue, according to the situation in which they are found and its amount of vascularity. Though seen in greatest luxuriance on the female genitals, they form also on the penis, and may occasionally be met with round the anus, at the umbilicus, or in the mouth. As seen on the labia, they are usually bathed in a thin, acrid, puriform secretion, which rapidly decomposes and gives rise to a penetrating and highly disgusting odour, which is sometimes perceptible at some distance from the affected person. They develop rapidly, but have no tendency to disappear spontaneously; indeed, uninterfered with, they may continue for years. As in other forms of warts, some persons are, from their habit of body, more liable to them than others, but they are undoubtedly contagious.

Two of the worst examples I ever saw were in two sisters. The first was seduced in Newcastle, contracted a gonorrhœa, came home to Berwick with immense masses of warts on the vulva. Some bunches were as large as a hen's egg. Her younger sister, two years after, also caught gonorrhœa in Newcastle, and came home similarly affected. The masses were removed under chloroform by the knife, scissors, and ligature. Some of the bases were touched with the actual cautery.

The acuminate wart, when found about the genitals or anus, may be mistaken for condylomata. These, however, are flatter, and more like plush, occur on surfaces in contact, and are usually, though not always, associated with other evidences of syphilis during the secondary stage. It is important to search for these, especially for enlarged lymphatic glands, or mucous patches about the mouth, or one of the forms of cutaneous eruption.

The cause of warts is still quite obscure. The verruca plana is part of the general atrophy of the cutaneous tissues which obtains as age advances; but while favoured by neglect of the

hygiene of the skin, is not wholly due to this. The acuminate wart is promoted certainly by the unaccustomed presence of irritating or readily putrescible secretions, especially in situations largely provided with sebaceous glands. Warts may grow on parts where the papillæ are feebly, as well as where they are strongly pronounced. I cannot, however, agree with Dr. McCall Anderson, who says, "I have little doubt that they are remotely connected with the scrofulous diathesis." He cites that form of lupus to which he has well attached the name of lupus verrucosus as an affection undoubtedly scrofulous, and as an example that such conditions are specially liable to take on a warty appearance.[1] Yet this form of lupus forms a sort of connecting link between lupus erythematosus and lupus vulgaris, and of the two seems closest in its nature to the former.

The degeneration of warts, and the tendency they have to take on an epitheliomatous character, has been already noticed. On the penis, the irritation caused by the smegma retained under a tight prepuce, or phimosis, is particularly apt to initiate this, leading to the practical rule that circumcision should be performed in all cases.

The treatment of warts has been much simplified since the introduction of salicylic acid. This may be applied dissolved in flexible collodion, in the proportion of ʒi. in the ℥i. A coating should be painted on at night, and peeled off in the morning, or gently ground off by means of pumice stone. Another mode is to wear a small piece of Beiersdorf's salicylic and creasote plaster muslin on the wart, changing it frequently, and similarly grinding down the soddened surface with pumice stone. The removal of venereal warts is a surgical process. One point is worth remembering, long ago insisted on by Professor Syme: that a wart should never be treated with nitrate of silver, at least one on the face. It causes irritation, and is too feeble a caustic to destroy the growth.

[1] *Treatise on Diseases of the Skin*, 1887, p. 367.

Allied to warts is a peculiar disease which has been described under the name of papilloma neuroticum, and of which the following case, which I exhibited at the April meeting of the Edinburgh Medico-Chirurgical Society of 1883, is an instance.

85. R. T., twelve, a rosy healthy lad. Four months before, in the end of 1882, his mother noticed a rough patch on the nape of the neck, close to the hair margin. Patches similar in appearance have formed on the back, and all down the right flank. These are all more or less oval in shape, and vary from a threepenny piece to a florin in size, and in some cases well defined from the skin round; in others, fade more or less imperceptibly into it. Closely examined, each patch is seen to be made up of hypertrophied papillæ, covered with horny epidermis. When scraped with the sharp spoon the warty patches resisted strongly. Each papilloma is not larger than a pin's-head, and is distinctly isolated. The patches exhibited no tendency to heal in the centre. On the back and sides the groups were arranged in the course of the cutaneous spinal nerves. The character of the patches approached that of ichthyosis hystrix, while the localisation was that met with in morphœa and zoster. The papillæ of the skin of the back, in parts unaffected with the disease, were more developed than is usual. There was no complaint of pain. The patches were directed to be washed with Hebra's sp. sapon. kalinus in warm water, and a tar and zinc ointment applied. Arsenic was administered. Some months after the patches had entirely disappeared.

We have seen that not only the hair papilla but the prickle cells of the follicular wall are hair-producing. When, therefore, in consequence of disease in a sebaceous gland, the hypertrophied inner secreting surface becomes everted, as from the rupture of a cyst, a coarse hair is produced, and this irregular mass of keratine is called a horn. Though usually seen on the head, they may be found elsewhere, and the mode of origin may not in all instances be the same. The practical rule results,

however, that the base of the horn must be excised or destroyed, else the horn will be reproduced.

Framboesia is shown in the *Sydenham Society's Atlas,* Plate XLI.; and the verruca acuminata in Kaposi, *Die Syphilis der Haut,* Tafel LXVII.

CHAPTER XXVII.

SCLERODERMA.

THE disease known as scleroderma occurs in two forms, which, though in well-marked examples sufficiently distinct, are yet united by others in which the characters are intermixed, rendering an exact separation by no means easy. The first of these is named by Dr. Radcliffe Crocker—who has summed up and added to our knowledge in two admirable lectures[1]—diffuse symmetrical scleroderma; the second, circumscribed, usually unsymmetrical scleroderma, or morphœa.

A condition termed *Sclerema neonatorum* needs a passing allusion. This is a species of induration of the subcutaneous tissues, but involving the skin, seen most commonly in the new-born infant. The child is weakly, and frequently premature. The back, shoulders, and thighs are the regions most markedly affected.[2] It terminates fatally in nearly every recorded instance, Dr. Barr's case being an exception.[3]

(1) *Diffuse Symmetrical Scleroderma.*—An instance of this form which was recently under my care will serve to illustrate some of the features.

86. P. C., aged six years; stout, well-grown boy. Has had measles and whooping-cough. Since childhood has suffered from incontinence of urine, most markedly during the day, to a lesser extent at night, more noticeable also when he was cold. His

[1] *Lancet*, vol. i., 1885.
[2] Ballantyne, *Brit. Med. Journ.*, 22nd February 1890.
[3] *Brit. Med. Journ.*, May 4, 1889.

father and mother are both healthy, as also his sisters and brothers. In the Royal Infirmary, to which he was admitted on 15th July 1887, circumcision was performed by Mr. Annandale. On the 28th July the temperature rose to 101·2°, but fell next day to normal. On the 30th and 31st it rose to 99·5°, then continued at a natural level till the 2d of October. On the 28th July the nurse observed a rash on the neck, which extended over the chest. This came and went, was most distinct on back, was elevated and pimply, and these pimples seemed as if they contained pus. The tongue was reddish and the papillæ were prominent, while he made slight complaint of sore throat: yet he always took his food well. His arms were seen to be covered with a powdery desquamation; there was no peculiarity of the skin noticed beyond the rash. Dr. Affleck directed him to be removed to the City Hospital. When admitted there on the 3d of August the rash had faded, but slight desquamation was noticed for a day round his neck. Though the temperature remained natural, he said he felt uncomfortable, and was put to bed. On the 10th of August a degree of tenseness of the skin was observed on the neck and under the jaws, and this rather rapidly extended to the integument of the arms, the chest, before and behind, and the abdomen. The skin of the chest felt hard when pressed, could not be pinched up or moved, except to a very small extent, over the subcutaneous tissue. It seemed drier than it should be; its surface was rough, and in parts had a dirty, unwashed aspect. There was no pigmentation, nor any pink or white patches, nor did he complain of pain, merely of a sensation of tightness, which prevented the arm being fully extended at the elbow or the head rotated freely. He was anointed with a mixture of lanoline and lard from the 9th of September onwards, and the skin, especially of the abdomen, became rather softer and more pliant, though there was no change in the condition of the arms. On the 2d of October his temperature rose, and his whole body became covered with an eruption of vesicles and blebs, which presented the usual

appearances of chicken-pox. By the 19th of October, when the skin had again assumed a natural state, the induration was found to have almost entirely disappeared from the chest, back, and abdomen, though the arms and neck were still hard and immovable when pinched. The urine throughout was plentiful, and free from albumen or sugar. The blood was examined after eight P.M. on two occasions for filariæ, but none were found. On November 23d the skin of the arms and neck was found to have resumed its natural feel and appearance, its pliancy and softness were restored, and the arm could now be easily flexed and extended, and the head rotated without difficulty. The sole spot in which any induration was perceptible to pinching was in the centre of each cheek, which for a space of about an inch and a half felt hard, and double its usual thickness.

The case just related exemplifies the insidious manner in which this disease frequently commences. A sensation of stiffness in some part of the body, often the neck, is experienced, and this may be preceded by the development of a red flush, or eruption of a congestive nature, or of swelling of the parts—œdema. This latter symptom subsides as the disease becomes more established. "Dead fingers" occasionally precede the more distinct symptoms of scleroderma. The tightness increases both in degree and in area, and the skin feels hard, wooden, and may be perceptibly colder than the unaffected parts. When the face is affected the mouth can only be opened with difficulty. The surface is dry and harsh, but there is no distinct line of demarcation defining the sclerosed from the yet unaffected portions. The deeper parts of the skin are invaded, and as a whole the integument is over-distended and stretched, the infiltration into its substance causing the hardness and immobility which it exhibits.

But consequent on this, the hypertrophic stage, further changes may arise. White ivory-like patches, more or less extensive dots, or considerable spaces develop; round these

there may be a violet or pinkish halo of dilated capillaries, from a quarter to half an inch broad, and in addition a variable amount of pigmentation. All these features—the white areas, the pink mottling, and the pigmentation—may be seen scattered here and there in different parts. The white portions convey the impression that some lardaceous material has been deposited in the skin. The dense hardened parts do not pit on pressure. The sensibility is little impaired, though sometimes it is diminished. Atrophic changes succeed the hypertrophic ones; the skin shrinks and becomes firmly adherent to the bones, or to the fascial or tendinous sheaths beneath. Gangrene of the extremities may result. This, as the defect in the circulation (dead fingers) alluded to as sometimes seen in the early stage, tends to ally the complaint with Raynaud's Disease, the connecting symptoms now preceding again following the appearance of the scleroderma.[1]

For the following case I am indebted to my friend Dr. John Wyllie, under whose observation he was for a period of eight months in the Royal Infirmary.

87. P. W., fifty-five, quarryman. Admitted May 17th, 1882. Complains of shortness of breath, and swelling and stiffness of the extremities, especially of the ankle and finger joints. Has never had any venereal disease nor rheumatism. Two months since he noticed some swelling of the hands and feet; this at first came and went, though accompanied by no pain; latterly it has increased so much that he cannot work. Along with the swelling he observed that his skin became darker. The integument of the greater part of the body is very deeply pigmented. The bronzing is, however, most marked over the lower portion of the abdomen, across the lumbar and sacral region, down the posterior and inner surface of the thighs, also on the face, neck, and forearms. Its distribution is symmetrical. The only part entirely free are the palms of the hands and the soles of the

[1] For a number of illustrative examples, see Hutchinson's *Archives of Surgery*, vol. ii., 1891.

feet, while the back from the spine of the scapula to three inches below its inferior angle is stained very little. To touch, the skin feels dry, hard, and thick, this being best marked where the pigmentation is most intense. The darkest parts are also studded with ivory-white spots and streaks. When the fingers are forcibly flexed the tendons creak in their sheaths. The urine contained no albumen; the chlorides were normal. It was noted later that the skin had a parchment-like aspect and feel over the chest, abdomen, and lumbar region. The same creaking was also heard in the patellar bursa, and over the olecranon when the leg or arm was moved. On July 16th, coincidently with a rise of temperature which lasted twelve days, a red blush of congestion appeared over each scapula, extending downwards to the base of the lung on either side. This pitted slightly on pressure. Friction and fine crepitation were also audible over each base. By the 20th September the rose-coloured flush had almost entirely disappeared, and was replaced by ill-defined reddening over the angle of the scapula, with admixture of brown pigmentation. The creaking of the tendons in their sheaths could now be felt up the forearm and over the ankle.

An interesting point in this case is the implication of the synovial bursæ and the tendinous sheaths. There is strong reason for believing also that the creaking and friction sounds heard in the pleuræ were due to similar sclerotic alterations in the serous membranes.

There is ground for the opinion held by Duhring and Graham,[1] that there is an acute and a chronic form of this diffuse symmetrical scleroderma. The acute is much the rarer; only four or five cases have been published. Case 86 is an example. Pigmentation seems less frequent in the acute phase, and atrophy is not so marked. While in some the completion of the process is reached in a few weeks, in others months or years may elapse. The termination is sometimes in recovery, the induration

[1] *Journal of Cutaneous and Venereal Diseases*, November 1886.

becoming gradually diminished till free movement and pliancy are restored.

In case 86 this seemed consecutive on the attack of chicken-pox, since the inunction with lanoline, though it somewhat softened the skin, did not permit of its being pinched up any more freely.

(2) *Circumscribed Scleroderma or Morphœa.*—In this form the lesions are most commonly non-symmetrical, and are as a rule more localised and defined than in the previous one. Sometimes a white lardaceous spot or patch, or more than one, appears, surrounded by a violaceous or lilac areola. In other instances there is a reddish or purplish blush, within which the skin becomes white or yellow, and smooth on the surface, polished in appearance. Such spots very often occur in the course of a nerve, as the fifth, or one of the spinal nerves, as in a case where the disease had lasted a year, and was limited exactly to regions supplied by the internal cutaneous nerve on each arm. The shape of the patch is oval or linear,—less frequently the latter. There are seldom any subjective sensations accompanying its evolution. Females are more frequently affected than males, and it may occur indifferently in children and adults.

The following case, communicated to the *Archives of Dermatology* by me in 1881, affords an admirable example of the features of morphœa.

88. T. S., twenty-four, grocer, consulted me on the 22d August 1879 for alopecia areata. He was a tall, slightly made man, with a pinkish flush on his cheeks. With exception of an attack of spasmodic wryneck when a boy, which, though it lasted six months, does not seem to have been connected with any organic spinal disease, he has always enjoyed excellent health. His parents and an only brother are alive and well. On the trunk and extremities were numerous patches of morphœa. On each side of the abdomen, so as to be nearly symmetrical, the skin of the umbilical and hypogastric regions, extending down over the groins, outward into the flanks, and reaching to some

distance below the crest of the ilium on the outer aspect of the thighs, presented the disease in its most advanced stage. There were white, smooth, punctated ivory-like areas having a somewhat lardaceous appearance, and with a slight degree of thickening, duskily pigmented parts with lighter spots rained over them, and parts faintly violaceous. The patient said the violaceous preceded the white alterations in point of time. There was a large lilac patch behind, over the sacrum, and numerous smaller ones above and around it. On each side of the spinal column were many faintly tinted ones, roughly corresponding to the emergence of the posterior branches of the spinal nerves. Some followed the course of the intercostal nerves. A large patch on each arm stretched from the external condyle of the humerus down the outer aspect of the forearm, and patches at intervals ran longitudinally down the back of the thigh and leg, as far as the ham. There are no subjective sensations whatever, and neither anæsthesia nor hyperæsthesia could be made out. On the white parts the lanugo seemed deficient or absent.

In the end of October 1887 the condition was found to have in some degree changed. On the left side of the abdomen the violaceous zones have disappeared, and many of the white spots have been replaced by brown and uniform pigmentation. Within this, however, are unpigmented areas, not so white as the patches in leucoderma, and which present ramifications of dilated venous radicles. On the right side there is similar pigmentation, but at the upper part near the ribs, there is a white patch dotted over with punctiform markings. This does not feel thickened when pinched up. On the back the violet patches have become very indistinct, and have not been replaced by pigment. On the front of the left forearm are a number of faintly violet spots or patches from the size of a pea to that of a bean, which to appearance are depressed below the level of the skin, but this is not perceptible to the finger. There has been otherwise no extension of the disease, and the alterations are retrogressive.

The next case illustrates an arrangement corresponding to

CIRCUMSCRIBE

SCLERODERMA

that of herpes zoster, the patches following the course of an intercostal nerve.

89. A. D., aged eleven, came to the Royal Infirmary on the 3d July 1886. Eighteen months since her mother noticed on the right side of the abdomen a patch of hardish white infiltration, which has extended diagonally upward toward the spine, in course of the twelfth rib. There is one patch four inches long by three deep, and a second rather smaller higher up the nerve track. These present a space of hard, smooth, waxy infiltration in the centre, beyond this a violet or bluish circle, which becomes on its outer portion a purplish pink, fading into the normal hue of the skin. No pain accompanied the first appearance of the disease, nor does pressure elicit any now. Advance has all along been slow, and even more so of late.

Still more remarkable is the next case, inasmuch as the infiltration led to the formation of distinct and prominent nodules. This was thought to be due to the occurrence of the disease on the scalp, where, from the subjacent cranium, extension downwards was restricted; but this could not have been the true explanation, since similar nodules developed at a later period near the sternum. Subcutaneous nodules were met with in one of Dr. Crocker's cases, but were not apparently the same as the ones which formed in D. M.'s case.

90. D. M., aged fifty-six, native of Wick, was sent to me at the Royal Infirmary, on the 27th June 1885, by Dr. Alexander. Has been a farmer, never was in Norway, has had good health, and no history of syphilis can be made out. Eight years ago a nodule appeared on the scalp near the situation of the anterior fontanelle; after persisting for some time it gradually subsided, and has left no trace of its existence. Several others have in like manner come and gone. He is bald over the vertex, and on the hairless portion nodules of a reddish and yellowish brown, moderately soft, and with a somewhat translucent aspect are scattered. Some are movable on, others are adherent to, the skull. On an average they rise one-third of an inch above the

skin. Around and between the nodosities are dusky violaceous patches, which are partly composed of minute vascular telangiectases, in part are merely purplish colorations of the integument. Some of these are quite flat, others are slightly prominent, and he states that such are left behind when the nodules undergo involution. On the right side of the scalp, near the posterior margin of the parietal bone, there is a deep ulcer with well-marked and hard edges, secreting a sanious and sero-purulent pus. This is said to be at times painful, but the nodules themselves do not occasion any uneasiness. The ulcer was scraped carefully, and iodoform in powder was directed to be applied as a dressing, while arsenic was prescribed internally. The illustration very accurately represents the condition. A portion of one of the nodules was cut out and was examined by Dr. Alexander Bruce. He came back in July 1886. Some of the nodules which were prominent the previous year had become flattened down, and had nearly disappeared. One, however, the largest on the right side, where the deep ulcer was, had increased, and was now the size of the half fist, and on its surface were several ulcers. Over the lower part of the sternum, too, a number of ill-defined purplish patches have appeared, which are not much elevated above the surface, and two yellowish-white, soft, semi-translucent nodules, the size of a small bean. There were also two purplish patches symmetrically arranged on the back, three inches on either side of the vertebral column, over the twelfth rib. There were no nodules behind. When returning from the Exhibition on the 7th July he got chilled in the train, and had a rigor, and developed lobular pneumonia. On the 10th it was remarked that the tumours had diminished one-half; and on the day of his death, the 15th, they had almost disappeared.

There might, in this instance, have been a suspicion that the disease was epithelioma, but the microscopic examination of the nodule set that definitely at rest. Nor was the condition one of sarcoma in its non-pigmented form. The ulceration was

due to stretching over the cranium, and has its counterpart in the following example, where the tension and movement at the ankle caused the dense, hardened, and inelastic skin to break down.

91. B. M., aged fifty-three, has all her life suffered from a dry skin, which over the knees is rough and reddish. The veins of the legs are varicose. On the right leg, on its inner side, extending for several inches above the ankle, the skin is hard, cicatricial-like, and bound down to the fasciæ and tendinous sheaths below. In parts the colour is reddish, in parts yellowish, and not unlike ivory. There are one or two small ulcers in the parchment-like skin over the malleolus, due perhaps to a tearing of the skin from muscular movement. Some years later the scleroderma had disappeared.

Such, then, are the characters of the disease. Unless the induration is absorbed again within a reasonable time before atrophic changes take place, permanent alterations in the skin result, and a restoration of the parchment-like and wasted integument is not to be expected.

Apparently closely allied to scleroderma, if not actually a further and deeper seated manifestation of it, is what is known as *unilateral atrophy of the face.* Duhring,[1] who has pointed out the connection, shortly described this as "a variable degree of atrophy of a portion or of the whole of one side of the face, involving the skin, subcutaneous connective tissue, and deeper structures, including in some cases the bones." Much the same may be said of many cases of so-called *lineæ* and *striæ atrophicæ*, when these are not caused by overstretching of the skin as a consequence of general or local obesity, pregnancy, or the presence of abdominal tumours. In these there is a primary production of erythematous spots or lines, presenting the same rose or violaceous aspect as has been seen in scleroderma, followed by atrophic changes, which end in the establishment of glistening, scar-like, undulating linear depressions. These

[1] *A Practical Treatise on Diseases of the Skin*, 1882, p. 413.

have been seen in direct association with morphœa, and in other cases are probably the same disease in a milder form.

The morbid anatomy of scleroderma has been particularly studied by Crocker, and appearances in nearly exact accord with his were found in the sections from the nodule in D. M.'s case. The papillary elevations of the corium were effaced, and the upper level was nearly horizontal. The corium was infiltrated with round cells, in size corresponding to leucocytes. Some of these were elongating into fibres. Here and there they were crowded together round the vessels, particularly those of the horizontal layer, and by their pressure would obstruct these. If these exuded cells are not absorbed, transformation takes place into fibres, and these contracting, lead to the atrophic changes. "In the diffuse form the deeper part of the skin and subjacent tissues, and often the muscles and bones, are involved, while the superficial part may escape or not; in the circumscribed the changes are almost entirely superficial." There is lymph as well as blood stasis, and this brings the disease into relation with urticaria. To the wheal, indeed, the white patches, with their violaceous edges, bear a considerable resemblance, and the absence of pitting on pressure in both is another feature in common.

But Mr. Hutchinson[1] has also directed attention to the links which connect morphœa and zoster. This is not so marked in the diffuse as in the circumscribed variety of scleroderma; but cases have been cited which show the same arrangement of the patches in the course of nerves. When scleroderma invades the tract of the fifth nerve the final results as regards scarring are not very dissimilar.

As to the nature of the disease we are still at fault. While a rheumatic element has been demonstrated in some cases, it has been conspicuously absent in others. Crocker is probably right when he says that exposure to cold is a common exciting cause of rheumatism and scleroderma, and that no doubt those

[1] *Lectures on Rare Diseases of the Skin.*

who have suffered from rheumatism are abnormally sensitive to cold and heat. Hence rheumatism may be said to predispose to scleroderma, but the closer relationship which Graham among others would establish it hardly warranted. The occurrence of alopecia areata in those suffering from scleroderma has been noted in several instances, and Sir Dyce Duckworth[1] has constructed a chain, the basis common to all being a trophoneurosis commencing with alopecia areata, including morphœa, and ending in unilateral facial atrophy. Bancroft[2] has related an interesting case where the diffuse form of scleroderma affected a young woman whose blood contained the filaria sanguinis.

The diagnosis can scarcely be difficult when the features described are fully taken into account. Oscar Lassar[3] relates a case of long-standing prurigo associated with extensive and deeply infiltrated eczema. "When the superficial inflammation had been cured by means of his paste, hard white stripes were seen, bounded by brownish and livid red borders, which alternated with thickened and hardened islets. These were scattered irregularly on the nates and the face. The resemblance to true scleroderma was close, and the causes induced by the pruriginous irritation were the same,—congestion and inflammation, with obstruction to the flow of lymph in consequence of the enormous size of the glands. Baths, massage, compression, diaphoretics, and the treatment of the prurigo by tar, produced a favourable effect." Such an extreme case is rare, but localised chronic eczema of the leg may pretty closely simulate a patch of scleroderma confined to that locality. The presence of itching, and possible occurrence of eczema elsewhere, may aid in preventing the occurrence of a mistake, but not wholly, for pruritus is sometimes encountered in association with scleroderma.

In a certain number of cases a spontaneous cure results in

[1] *Edinburgh Medical Journal*, January 1883.
[2] *Lancet*, February 28, 1885.
[3] *Monatshefte für praktische Dermatologie*, July 1884.

course of time, and our duty is to encourage the patient, and to employ such measures as may help to cause absorption of the infiltration, remove the dryness of the skin, and promote perspiration, which is defective over the sclerosed parts. Hence tonics of various kinds are to be prescribed as the state of the general health demands. Turkish baths and massage, or frictions with lanoline, are indicated, and where such baths are unattainable, the hot pack may be substituted, repeated for half an hour or an hour each night or every other night, according as the patient's strength permits. In the more localised forms the compound salicylic glycerine jelly forms an excellent application. My experience, so far as it goes, supports that of Crocker, that arsenic, however long continued, has no influence whatever.

In one case a complete cure of a localised scleroderma of the arm in a man aged 33, which has lasted eleven years, resulted from the use of a chrysarobin ointment pushed to the extent of very fully developing the characteristic erythema, then followed by the application for a time of the compound salicylic glycerine jelly. In a second, in a woman aged 68, the same treatment produced such great improvement as almost to amount to cure. The back of the neck and inner surface of the thighs, from being hard and atrophic, became soft and pliant, some degree of pigmentation remaining, however, when last seen.

The diffuse form of scleroderma is difficult to depict, but the sclerosis is excellently shown in Tafel XLVI. of *Neumann's Atlas*. The violaceous mottling and the ivory white spaces are represented in *Tilbury Fox's Atlas*, Plate LXVI., while the pigmentation is the more prominent feature in Plate XLIV. of the *Sydenham Society's Atlas*.

CHAPTER XXVIII.

HAIR OUT OF PLACE, AND HAIR ATROPHY.

WHETHER the human race was at one time covered with hair, like many of the lower animals, and what we possess now is but a remnant spared us ; whether excess of hair is, as Dr. James[1] has ingeniously argued, an evidence of degeneration rather than of unusual vigour and exceptional strength,—it cannot be denied that abnormalities in the condition of the hair are viewed with disproportionate concern by both sexes. We mean by this that loss of hair is regarded as a calamity among cultivated nations. Among savage tribes, untainted by the vices introduced by civilisation, baldness is, I believe, unknown. In like manner, in women the development of a beard or moustache, or the appearance of strong and dark hairs on the face, neck, or arms, are in Britain and America, and, I may add, in Germany and Austria, considered a misfortune. Were further proof needed, the innumerable advertisements, pictorial and otherwise, of hair restorers, which are declared not to be dyes, the pomades and washes recommended by every hairdresser, and the depilatories extensively employed, amply provide this. It cannot, therefore, be out of place to consider the causes which produce excess and unnatural diminution of hair, and the means we possess of remedying these.

And, first, of hair out of place. I have no intention of considering here those curious freaks of nature, the hairy men and

[1] *Transactions of the Edinburgh Medico-Chirurgical Society*, vol. iv., 1884-85, p. 258.

hairy women who are exhibited from time to time, and which, interesting enough from a physiological point of view, have no attraction for the practical physician. There is another form of hypertrichosis, that known as the *nævus spilus* or hairy mole, which may assume a considerable size, and indeed which in exaggerated condition accounts for many of these hairy monstrosities. Such are congenital, but increase with growth up to a certain point. The abnormality which we have to deal with is the occurrence of strong dark hairs on the face and neck of women. The distress of mind occasioned by these is very real, and is perhaps scarcely fully understood or appreciated by men. Some women, it is true, bear such an infliction philosophically; to others it is a source of daily, even hourly torture, and, as Jackson[1] has well observed, the growth of such hairs has a peculiar moral effect. Women brood over their misfortune, shun company, and are prone to become hypochondriacal and melancholic; and yet in such there may be no very formidable hirsuties. The frequent occurrence of facial hairiness among insane women has been observed by several writers, and although in such cases the insanity has usually preceded the abnormal growth of hair, I have no doubt that in many cases the mental worry caused by slight facial hairiness has acted as an exciting cause, and served to develop an insane tendency.[2]

I am inclined to think that such women fear that the number of hairs will increase, and conjure up the idea of a state of aggravated hairiness, a result seldom attained. The extent to which the overgrowth of hair proceeds seems to depend on the period of life when the unnatural production commences, as well as on the degree of irritation to which organs connected with complemental nutrition are subjected.

92. S. C., aged twenty-eight. Several years before hairs had commenced to grow on her chin, cheeks, and upper lip, and when

[1] *New York Medical Record*, May 23, 1885.

[2] *The Physician's Leisure Library*: "Electricity in the Removal of Superfluous Hairs," by Dr. G. H. Fox, 1886.

seen by me she had a thick dark-brown beard, fully three inches long, small thin whiskers, and a slight moustache. About the time the hypertrichosis began she commenced to suffer from ovarian disease, and she had well-defined cystic disease of the left ovary when seen. At the time electrolysis was in its infancy, and indeed the case was one too formidable to be satisfactorily dealt with by it. She objected to shave. I advised ovariotomy to remove a source of irritation, though, as will be seen, this does not cause involution of such hairs as have already formed.

93. A dark-complexioned lady, aged thirty-three, consulted me about some long dark hairs on the right side of the chin. She stated that, till seven years before, her menses had been natural in time and appearance of flow. She then remarked that the character changed; the fluid became dark and ill-coloured, without pain. At the same time dark hairs developed on the chin. She married, and the condition of the menses grew worse. Thinks she once miscarried. Her husband died after two years of married life. All the hairs were removed by electrolysis, and pills of permanganate of potass prescribed at each period, and a warm sitz bath. She was seen fourteen months after. In the interval she had married again. The menses were more natural, but still not entirely so, and some dozen dark hairs had come on the left side of chin. There was no trace of the others on right. I removed those also by electrolysis, and advised continuance of the pills, which had only been taken for a few months.

Dr. G. H. Fox also directs attention to the relation which hypertrichosis bears to deficient menstruation.

Those who apply for relief from the disfigurement are usually between the ages of twenty and thirty-five, but there are also examples in whom this seems related rather to the cessation—sometimes temporary [1]—than the activity of female sexual life. My own observations would lead me to say, that in young females the chin on each side and the neck are the regions chiefly invaded, while in middle-aged women the moustache is

[1] Hyde, *Practical Treatise on Diseases of Skin*, Second Edition, 1888, p. 399.

more apt to become prominent, though in old women a strong growth of hairs on the chin is not unusual. In all so affected the majority are unmarried, though I have seen a good many examples in those who have early become widows, and some in married though sterile women. The conclusion is unavoidable, that prolonged abeyance of the completed sexual functions in women, or the arrest of the natural union of the sexes at too early a period, favours the development of misplaced hairs, since married women in whom these relations are maintained after the cessation of menstruation are seldom troubled, at least till long after, with such appendages. It would appear that delay in the gratification of the sexual appetite tells much more injuriously on some than others. We have little to guide us to a knowledge of the degree in which such passions exist in young females, though hysterical attacks are often one way in which the overstrained safety valve discharges itself. Apart from this, however, various unhealthy states of the female generative organs can be discovered or inferred in many. Ovarian irritation, due to some interference with the due course of normal menstruation, seems to have a tolerably direct influence on the growth of such hairs. It must be admitted that exact information on this matter is difficult to obtain, partly from the impossibility of making the necessary examination, and partly because from ignorance, delicacy, or both, precise statements as to the function are not often attainable. The growth of strong hairs is sometimes combined with acne, or at least with that thick, dull, and sluggish skin usually the accompaniment of acne and comedones. Dark-complexioned women are more prone than fair: this is not that in such the hairs are more distinctly visible. It is well known that in Spain a moustache is considered rather as enhancing than detracting from beauty, so common is this feature. Local irritation can scarcely be a factor in the causation of this form of misplaced hairs. We see occasionally strong hairs round the margins of old ulcers, or on parts repeatedly blistered, but no such abnormal stimulation exists on the faces of females.

In treatment, nothing less than the thorough disorganisation of the whole hair-bearing surface of the follicle is effectual. The researches of Unna have shown that it is not merely the hair papilla, but the entire inner surface of the follicle, nearly as high as the point of entrance of the duct of the sebaceous gland, which possesses the power of hair production. Since it is not possible to distinguish a hair growing from the hair papilla—a papillary hair—from one springing from the prickle cells of the follicular wall—a bed hair—except by microscopic examination of each hair, it follows that some part of the wall of the follicle, or the hair papilla, may escape destruction by electrolysis, the method chiefly employed. This accounts for the failure, in a certain proportion of the hairs operated on, of effecting a radical cure, though each succeeding operation reduces the number of hairs which reappear. There is, however, another cause of failure. When the papillary hair has separated from the papilla, and become a bed hair, growing from the prickle cells, and no longer having a medulla, a process is sooner or later sent downwards from the base of the hair to form the nucleus of a new one, which in time displaces the bed hair. Now this bud may escape the needle thrust into the follicle, and while the bed hair is loosened and cast off, and the lining of the follicle disintegrated by the electrolytic action, the young hair continues to grow, and in time makes its appearance on the surface. Another cause of failure is due to the needle either not entering the follicle, or being pushed through its walls, the papilla escaping. Electrolysis then must fail in radically destroying a certain proportion of all the hairs treated by it, but the greater the experience of the operator the smaller will the number be, and on the other hand, if repeated often enough, it will eventually succeed.

There is needed for the purpose a constant current battery. I now employ from four to six large zinc and carbon Leclanché cells. To the wire connected with the positive pole a sponge electrode is attached. This is placed on the knees of the patient, so as to be conveniently grasped by both hands, and is

moistened with salt and water. To the wire proceeding from the negative pole a needle-holder is connected by a movable pin. The needle-holder consists of a wooden rod about the thickness of a pencil, through which runs a brass wire, which is not, however, continuous throughout, but is interrupted in the centre. To the end next the wire a plate is attached made to act as a spring, and this, when pressed on by means of an ivory knob, acted on by the thumb of the operator, comes into contact with a stud secured to the lower end of the needle-holder, and thus the circuit can be closed or broken at will. The needle, No. 12 diamond in most cases, in some a still finer, No. 16, is fixed by means of a split tube closed by a ring. Thus a broken needle or one which has rusted can be withdrawn and a fresh one substituted in a moment. A two and a half inch convex lens, on a movable joint, and sliding on the handle, facilitates the introduction of the needle into the hair follicle.

The patient, seated in a good light, at a convenient height, and with her head steadied by resting it against the back of the chair, or reclining on a couch, grasps the sponge; the needle is next passed into the follicle alongside the hair, and as nearly as possible in a line with its axis, and the circuit closed by compressing the ivory knob against the stud. A sharp sting is experienced, and then a burning sensation. It is advantageous to move the needle perpendicularly up and down in the follicle. Soon a slight frothing is seen at the mouth of the follicle, and a blanching of the skin for a sixth of an inch round. The needle should be retained *in situ* for from half a minute to one minute; then the pressure on the knob relaxed, and the needle withdrawn. If successful, the hairs should be quite loose, and come away painlessly. Unless the hair comes out with *a very slight pull* by the forceps, the needle must be reintroduced, as the hair papilla has in such a case not been struck. Behrend[1] points out that an estimate may be formed of the probable depth at which the papilla is seated, or the hair inserted in the skin, by the follow-

[1] *Berliner klinische Wochenschrift*, No. 11, 1886.

ing simple procedure. A hair is seized by the forceps and pulled: when it is superficially seated, the skin is raised with a small and sharply conical pyramid; if deeply this is broader and flatter.

In order to enable one to determine the depth to which the needle has punctured, I have adopted the plan of immersing it in solution of sulphate of copper, the point having been previously buried from one-sixth to one quarter of an inch into a cork. The portion of the needle in contact with the copper becomes black and rough, while the covered part retains its polish. The roughness is an advantage, as it enables the needle to be more securely fixed in the grip of the holder.

The amount of pain which accompanies the operation varies not only with the individual, but also on different spots. On the neck the skin is usually very sensitive, and the first hairs on any part are electrolysed with more pain than those subsequently operated on. After the needle has been withdrawn and the hair removed, a little yellowish fluid oozes from the opening, and this dries into a crust. The skin, too, feels hard, and for a time is redder than normal. The finer the needle, the less the subsequent reaction. Douching the part for a few minutes several times with very hot water tends to disperse the induration, and is soothing; and I find that the local irritation which succeeds the operation may be caused to disappear more rapidly by covering the part with zinc ichthyol salve muslin, or with zinc ichthyol glycerine jelly.

Not too many hairs should be removed at each sitting; if possible, from twenty to thirty only, or at least not more than fifty, as thus the reaction is less, and the hand and eye of the operator are not unduly strained. Certainly a few days, sometimes from ten to a fortnight or more, should elapse between each sitting, and therefore the course of treatment may be a prolonged one if there are many hairs, and these densely set. It is best to operate in the morning, when the light is clearest and the operator fresh.

While all the strong hairs actually present may be permanently removed, new ones may develop from the pre-existing lanugo much as the former ones did, and thus the operation seem unsuccessful. The cause which stimulates the hairs to active growth is then still at work, and we may either be unable to discover it, or to check it though ascertained. "In a large proportion of cases, on the other hand, the unknown cause of the growth has ceased to act, and the removal of the abnormally developed hairs leaves the face permanently free."[1]

In most cases no permanent mark is left after the subsidence of the irritation caused by the operation. Sometimes a few faint punctate cicatrices can be discovered on close inspection, and these are most apt to be left when the skin is thick and inactive or the patient strumous.

The cases best suited for electrolysis are those in which the hairs are dark, strong, and not placed closely together. Fine downy hairs are not suited for removal by electrolysis, but all the conspicuous hairs can with time and patience be thoroughly eradicated; and the pain is not in any case such as the most sensitive person cannot easily bear.

In the case of moles where we desire not only to remove hairs but the discoloration of the skin as well, Dr. Arthur Jamison recommends the ethylate of sodium. He applies it freely after cutting the hair short, rubbing it in till the skin assumes an orange hue. The part is then dressed with cold-cream. A crust forms which may take weeks to separate, and merely a faint scar remains.[2]

If there is a tendency to the production of thick strong hairs on parts which should merely bear down, there is also an increasing predisposition to baldness in parts which should be amply covered with hair. This is exhibited in both sexes, though the mode in which it manifests itself is slightly different, and

[1] Fox, *loc. cit.*, p. 20.

[2] *Practitioner*, July and August 1889.

the causes are not quite similar. It may be laid down as a rule, to which the exceptions are few, that any organ the use for which no longer exists, or, if existent, is imperfectly fulfilled, or the employment of which is perverted, is apt to waste. Now there can be no question that one, and a very important, function which hair performs is the protection in various ways of parts on which it grows. On the head hair shields the scalp from injuries, and from heat and cold. But when the head is kept continually or pretty constantly covered, the necessity for this thatch provided by Nature is partially abolished. Hence it atrophies and withers on those portions of the head where it is most constantly overlaid. Hair needs the stimulus of sun, air, and exposure to make it vigorous and healthy, and this being denied it by the hat or cap, it dwindles and pines away. With this less active growth, too, the hair does not extract from the blood, in which its roots are embedded, the same amount of nutritive material. The blood-vessels, therefore, shrink, their meshwork becomes smaller, and the scalp itself waxes thinner, denser, and less succulent.

There is another more purely mechanical cause for baldness in men. The hard rim of the hat pressing on the temporal arteries narrows the blood-stream, and checks the advance of pabulum to the hair. Those seated furthest from the periphery suffer most, as on the crown, though the temples, as their name indicates, are also easily affected, no doubt because the skin there is wholly dependent on the temporal arteries for its supply.

The nerve distribution to the scalp also exercises an influence on the growth of hair. Mr. Hilton[1] has shown that the "same trunks of nerves, the branches of which supply the groups of muscles moving any joint, furnish also a distribution of nerves to the skin over the same muscles and their insertions, and that the interior of the joint receives its nerves from the same source. Hence arises an accurate, consentaneous, and physiological harmony in those various co-operating structures." May there

[1] *Lectures on Rest and Pain*, VII. and VIII.

not exist a similar relation between the nerve supply of the cerebrum, and its membranes more particularly, and the scalp? Indeed, we know that the nerves distributed to the dura mater and pia mater are directly connected with those which supply the scalp. It is through these connections, in all likelihood, that the effects of sudden fright, of intense anxiety, and of grief are exerted on the nutrition of the hair, both as regards its atrophy in amount and in colour. The itchiness at the roots of the hair which sometimes annoys students when deeply engrossed with a difficult subject is probably due to a correlated congestion of the scalp as well as of the cerebrum.

In women there are additional and exceptional causes of baldness. One is undoubtedly dragging the hair in the mode of dressing employed. The hair in them usually becomes first thinnest over the parting or division. Again, all pads and chignons tend to cause baldness, partly by the heat which they cause on the part of the scalp where worn, partly because the hair is drawn over them, and they act as a lever pulling it out by the roots. Pregnancy and lactation, anxiety, worry, and love disappointments are all real causes of baldness in women. Neumann thinks that one reason why women are less often bald than men is because the areas on which hair grows are in them so much smaller, and thus less of the hair-forming material is abstracted from the blood. But the intricacies of complemental nutrition are too great for us to follow, and the arrangements of the female economy may only furnish a relatively smaller amount of hair pabulum. If in them the actual hair-bearing area is smaller, the hairs on the head attain a much greater length than in men; and it is the view of some that a long hair is less easily nourished than a short one. The largely increased prevalence of alopecia areata in recent times has, it seems to me, more than a chance association with over-pressure in school; cerebral exhaustion, an irritable condition of the brain, due to slight congestion of its membranes, must tend reflexly to interfere with the growth of hair.

Anæmia of the scalp co-existent with general anæmia checks the due renewal of the tissues, and in particular renders the horny elements, as we have seen in eczema, less resistant and weak. And anæmia is often found in those liable to baldness; yet it is not all forms of anæmia which cause falling off of the hair. The spanæmia of young women, of which such typical examples are common in domestic servants, does not as a rule affect the hair. It is more those forms connected with some exhaustive drain on the organism, at a time when it is in process of being built up, which lay the foundation of baldness. Syphilis and the exanthemata are in like manner frequently productive of loss of hair, though when due to these the loss is considerable and acute. Convalescence is often far advanced, or apparently complete, ere the fall commences.

Erysipelas, attacking the scalp, very commonly occasions temporary loss of hair, and indeed the restoration may never be complete. Excessive perspiration about the head is injurious to the hair; the sweat itself tends to rot the hair, and it at all events favours seborrhœa—one of the causes of baldness, which has been already discussed under disorders of the cutaneous glands.

All affections of the skin which cause ulceration lead to local destruction of hair. Lupus, terminating by interstitial absorption, and favus, which erodes each follicle, as well as morphœa and zoster, when localised on the scalp, have a like effect. But these leave conditions which are irremediable.

The varieties of baldness with which we are now concerned are two. One a steadily advancing but insidious process, in which the hair becomes thinner, finer, more scanty, and shorter, rather gradually, ere it disappears. The other, where larger or smaller areas are suddenly deprived of their hairy covering, and this done, the loss may at once cease; or, more commonly, the denuded parts become for a time more extensive; or every hair on the surface of the body may be shed. Any degree within those extreme limits may be attained.

First, then, of the more gradual process of extinction of the hair. This may either commence on the crown, or at the temples, or in both situations. In accordance with the normal and physiological hair change in man, a certain and variable number of hairs attain each day their term of life, are cast off, and in due course replaced by others. The number of such *effete* hairs alters under many circumstances, besides the merely personal element of each individual. Season, the state of health at the time, possibly food, all increase or lessen the daily fall. It is common experience that even the air of the seaside (and certainly salt water bathing) to those who have recently taken up their residence there, causes a larger loss. But so long as the new hairs are commensurate with the old ones which have fallen, no baldness results, however many are daily combed away. It is when the renewal is incomplete that the hair becomes scanty. Nor do the new hairs merely fail in number, they never reach the length of the old by a long way. With each renewal their length and their calibre are less, and consequently their term of life must be less too. The area over which these changes take place extends, but the sides and back of the head, those parts which have been most freely exposed to air and weather, resist the atrophy longest. Though the forehead and crown may in time become quite smooth, polished, and bald, downy hairs in many cases persist for long. If the person is well nourished, the bare scalp has a smooth, glossy, almost unctuous aspect, though it is thinned and more firmly bound down to the fascia beneath than of yore.

Such baldness is spoken of as premature, but even in very advanced life the scalp is not necessarily bald. No doubt old people of both sexes, but particularly of the male, are commonly so, but it does happen that a very plentiful head of hair may be retained to the latest years of life and this is probably the natural, not the abnormal state. The earlier thinning of the hair begins, the more rapid and usually the more extensive are

its ravages. Still, cases occur where the process seems to be arrested, or, if this does not happen, the fall is much less noticeable.

Hair with any marked amount of curl in it is much more durable than straight hair, though originally equally plentiful. This is, I think, due to the admission of air more freely by such hair to its roots, while its wavy springiness saves the scalp and vessels and nerves from pressure. This is an argument for the use of curling pins, or other modes of artificially inducing this condition of the hair, provided the hair be not dragged in the process.

Alopecia areata presents many points of contrast from the more insidious variety just described. Usually quite suddenly a bald patch the size of a shilling or more is discovered on an otherwise healthy scalp. If seen early, the skin over the denuded part may be slightly reddened or pinkish, but this soon changes into an almost ivory whiteness. The surface is smooth, and either quite bare or with one or two hairs still remaining, though isolated. Sensation is, and commonly continues, unaffected. Occasionally headaches and other peculiar sensations in the affected part are complained of. One lady who twice suffered from alopecia areata with numerous patches, said she could always foretell where the next bald spot would be, from a feeling of tension and uneasiness in the region about to be attacked. The scalp when pinched up is of normal thickness, and freely movable over the fascia beneath. The hairs at the edge of the patch can be extracted more readily than normal ones. The localisation of the earliest patches is peculiar. They are generally situated over the ridge formed by the insertion of the trapezius, on one side or other, very rarely both, into the occipital bone, or on one side or other of the crown, and above or behind the ear. These are the most frequent situations of the first patches; others may develop anywhere on the scalp. The bald spots are not symmetrical.

While the scalp is the part involved in the majority of cases, the bearded portions of the face may be exclusively or simultan-

eously affected, but there the disease never becomes universal, unless the scalp is diseased also.

Having once commenced, the baldness may spread alarmingly, till indeed every hair on the body is removed, or more usually it extends a little on the scalp, and then ceases to progress further. Very considerable thinning of the skin accompanies the severe form, and, as Michelson in Ziemssen's *Handbook* remarks, the sufferers from the complete form acquire a certain family resemblance.

After a variable time the hairs are as a rule restored, though possibly but incompletely. The rapidity of return is proportional to the degree in which the scalp retains its normal thickness, and the facility with which it can be moved over subjacent parts. Thus, if soft and freely movable, and the patches few and discrete, the chances are that restoration will take place within a year. If, on the contrary, the skin feels thin and fixed, and if the denudation is extensive, the reproduction of the hairs is always a very slow process. In some of the complete cases it is never restored. Yet even after ten or more years the hair may return. Michelson, in a case recorded in Volkmann's *Vorträge*, has observed entire restoration of the hair after sixteen years. Relapses are not uncommon. In one case where the loss of hair was total, and where it had grown again, a fresh loss occurred, and has spread pretty rapidly. In general the hair which first appears is colourless down. This may again fall off several times, or may grow gradually stronger, acquiring at the same time its natural colour. A woman with total baldness of the head and eyebrows, the mother of several children, stated that after the birth of each child a fresh loss of the down, which had become tolerably plentiful, always took place. The disease is certainly more common in women than in men. Bulkley's statistics show that except in the first ten years of life, males are attacked in a much larger proportion than females. It is rare after middle age. I have now seen a number of cases where it affected two members of the same

family, but in all at an interval of years. It is more prevalent among dark than light haired persons.

Two theories exist as to its causation—the parasitic and the neurotic. Though the presence of micro-organisms in the root-sheaths of the hairs round the affected areas has been proved, there is not a consensus of opinion as to the nature of these, while their causal connection with the loss of hair is extremely problematical. Dr. A. R. Robinson[1] has recently found micro-organisms in the lymph spaces of the corium and sub-papillary layer. These consisted of cocci in masses and rows. The deeper structures were also the seat of inflammatory changes, the hair follicles, according to his view, being affected secondarily. In one case, of only a week's duration, the micro-organisms were very abundant.

The neurotic theory, which explains the baldness as due to a failure of nutrition over certain areas of the skin, gives us little information as to the essence of the ailment. It has been seen in association with morphœa,[2] the relation of which to trophic disturbances is more clear. The absence of pigment, too, seen in the colourless lanugo hairs which first appear in convalescence, would connect it with leucoderma, where there is disturbance in the regular and uniform pigmentation of the skin. The examination of portions of skin taken from the bald patch show changes which point rather to suspension than suppression of the function of hair production. Balzer states that an ill-developed hair can be found in each hair follicle. There is thus not a total arrest in the development of the hairs, but a disturbance in their evolution. When the loose hairs from the margin of the denuded portion are examined, they will be found to be non-medullated at their lower part—to have become bed hairs in fact, and it is therefore probable that the normal hair change, instead of being distributed over the scalp, has become localised on certain spots, all of the hairs on this area thus

[1] *New York Medical Record*, September 17, 1887.

[2] See an example recorded by the Author in the *Archives of Dermatology*, 1881.

being shed simultaneously. This would indicate a trophic nerve disturbance.

In some instances sudden mental shocks, in other more gradual though not less wearing influences, which vex, worry, or distress, have been followed immediately or after a short interval by the appearance of alopecia areata. Of course such cannot be traced in all or even in many cases, for alopecia areata occurs frequently in children, on whom such impressions tell lightly. As it is met with more frequently in girls and women than among boys and men, local causes, such as have been alluded to under the more insidious form of baldness, cannot have much to do in originating it.

While such are shortly the opinions which are held as to its causation, various authorities believe that there are two varieties of the disease—a contagious and a neurotic. If this is correct, there exists so far no known method of clinically distinguishing between them. There are now many cases on record which indicate a possible communicability. Mr. Hutchinson has cited some.[1] The well-known outbreak in a parochial school at Hanwell, noticed by Dr. Hillier,[2] is one of the most remarkable. A girl was admitted who had had area in an aggravated form for one or two weeks, and was permitted to associate freely with the others. Following on this, forty-three children, exclusively those occupying the same part of the building, all girls, and from seven to fourteen years of age, became affected. Thibierge[3] notes an instance where many soldiers in the same regiment were simultaneously attacked; and Dr. Appleton of Coggeshall wrote me that there was quite an epidemic, twelve cases having occurred in March 1888, the disease having been previously unknown. Some very striking examples are related by Besnier,[4] according to whom contagion is either direct from actual contact, as in sleeping with an affected person, or is indirect, through the

[1] *Transactions Pathological Society*, vol. xiii., p. 266.

[2] *Handbook of Skin Diseases*, 1865, p. 286.

[3] *Annales de Dermatologie et de Syphiligraphie*, Sept. and Oct. 1887.

[4] *Sur la pelade*, Paris, 1888.

medium of caps, brushes, scissors, or of the "hair-clipper," or from resting the head against couches, chairs, or the cushions of railway carriages which have been recently used by some one suffering from alopecia areata. The localities mentioned as those earliest implicated favour this latter mode of communication. Many of those exposed do not, however, contract it, because they wash their heads frequently; or, perhaps, as in the case of all other transmissible complaints, since they are at the time insusceptible.

The opinion has been recently expressed that there is some connection between alopecia areata and tinea tonsurans. Mr. Hutchinson thinks that it is very commonly a sequela of ringworm, occurring either many years or only a short time after.[1] Dr. Crocker again holds the view that it is directly due in the greater number of instances to the trichophyton. He states that in a number of cases he has found the fungus of tinea within the root-sheath but not in the hair. The parasite is, however, always in small foci, and perhaps only in one of several selected hairs. He has discovered it more easily in hairs from the beard than from the scalp, and apparently only in the period of commencement. He believes that adults are still liable to have the scalp attacked by the trichophyton. In them it gives rise to bald spots, not the symptoms of ringworm as seen in the child.[2] In certain rare cases the identical spot or spots on a child's head affected with ringworm become after a time smooth and bald. One and only one such case has come under my notice, but the fact is admitted. It is a singular thing that those situations which have been mentioned as the ones first affected by alopecia areata are the very ones on which ringworm of the scalp is rarest. While in some cases a history of ringworm in childhood was obtained from persons the subjects of alopecia areata in adult life, in very many as positive a denial was made. So far I have not been able to find the trichophyton

1 *Archives of Surgery*, vols. i. and ii. *passim.*
2 *The Lancet*, 28th February and 7th March 1891.

in the root-sheaths of any hairs examined, taken from recent cases.

I have stated that sometimes the beard in men is the sole seat of the complaint, and in connection with this, though not explaining such cases, one must remember that atrophy of the sexual hair may result from the same causes as induce wasting of the generative organs. Thus Hammond[1] states that there prevails among certain Indian tribes a practice of stimulating excessively, and to the extinction of their function, these organs. In time such persons become effeminate, and lose all the sexual hair.

Dr. Wyllie mentioned a case to me where the penis and testes of a previously healthy and well-developed man shrunk to quite juvenile proportions, and coincidently the beard, whiskers, and pubic hair altered from a strong growth to a mere down. At the same time castration does not seem to affect, at least in all cases, the growth of the beard when the operation has been performed in full adult life. A man had first one, then the other testis removed by Dr. P. H. Maclaren for disease, and yet two years after his beard and whiskers were as abundant and strong as before. The extension of patches of alopecia areata, however primarily induced, is favoured by the lessened *vis a fronte* from the disappearance of the hair on the denuded part. "Ubi stimulus, ibi affluxus," is locally in abeyance. In a child at birth a small bald patch was formed on the crown, just where the whorl commences. As the head grew, the bald and cicatricial-like area extended, and in its neighbourhood minute islets of alopecia areata developed. One could scarcely help thinking that these were due to the radiation of nutritive weakness outwards.

The diagnosis of areate baldness is very simple. Still, because this has been erroneously named ringworm in some older books, the name and the associated idea have persisted. Tinea tonsurans does sometimes leave smooth bald patches in

[1] *Impotence in the Male*, New York, 1883.

its wake;[1] but the affected parts in ringworm are as a rule scaly and covered with broken hairs, which become white on the addition of chloroform, and are found to be loaded with spores under the microscope. The destructive folliculitis described by Quinquaud, produces patches which simulate area. The patch so occasioned is depressed and has a pseudo-cicatricial aspect. At the periphery are found the minute purulent or crusted points, the seat of the folliculitis. The smooth, white, bald patches in area, sharply defined from the healthy hairs, are unmistakable.

The prevention of baldness naturally precedes the treatment of the condition itself. While in adult life it may be difficult or practically impossible to avoid wearing a hat, and of all others that worst form, a silk tall one; such is or might be unnecessary in boyhood. Baldness is certainly still less frequent in the lower than the upper classes, and in the highest ranks of life it would appear to be almost the rule. Poor children have their heads as a rule bare in all the warmer months, and thus the hair attains a vigour and strength which it is slow to lose. The same may be said of Bluecoat Boys, some of whom have retained, according to my observation, thick heads of hair till late in life. At school and college, then, the head should be as lightly covered as possible out of doors. Though boys at Christ's Hospital are somewhat more liable to colds in the head on first entering the school than others, this tendency is soon got rid of, and immunity from coryza is with them the rule. This is in itself no mean advantage in our climate. The cap should be the lightest and softest, the Glengarry being one of the best, while the hard felt, be it "pot or tile," should never be adopted till rigid necessity compels.

This, then, is the first element in preventing baldness, a habitually uncovered head, or, next best, one with a very light, flat, and nominal protection. In close succession to this is the avoidance of sharp and finely toothed combs, and hard "pene-

[1] Liveing, *Transactions of the International Medical Congress*, 1881.

trating" brushes, which rake the scalp, and favour the reproduction of dandruff, for the removal of which they are vainly though extensively employed. Too much washing with any soap is injurious, though Unna's over-fatty soap employed occasionally is useful. The head should be cleansed by washing with the valoid of Quillayia and hot water, or with an infusion of the soap bark in cold water, to which sufficient hot is added at the time of using. Failing this best of all hair washes, the white of egg whipped up can be substituted, or an occasional application of weak solution of borax; but this, though a favourite household remedy for scurf, leaves the scalp, as all alkaline lotions do, dry and harsh.

While it is the office of the sebaceous and sweat glands of the scalp to lubricate the hairs within and at their exit from the skin, it has till recently been unexplained why the hair throughout its extent remains in health glossy and pliant, for the transmission of the sebum over the hair, assisted as this would be by the direction of the cuticular cells, seemed insufficient to account for this. The researches of Liebreich on lanoline have cleared this up remarkably.[1] Hair can no longer be regarded as an effete and dead tissue, but in a certain though limited sense an organ capable of elaboration. During its growth it can elaborate a cholesterine fat compatible with water, and it is this which maintains the hair lustrous and soft. It is true that in man this lanoline, or a body allied to lanoline, is in small amount, but when we take into consideration the special penetrating power on the horny tissues which this possesses, a very little is all that is needed. While, then, we remove by washing the accumulations of epidermis which clog the mouth of the hair follicles, and by pressure atrophy the hair, we must at the same time see that the hair itself is kept oiled. Lanoline alone is too sticky for use as a pomade. It can be combined with sesame oil, a non-drying oil, in the proportion of one to sixteen, or mixed with vaseline and almond oil in suitable proportions. Of either a

[1] *British Medical Journal*, January 16, 1886.

very little is requisite to preserve the softness of the hair. It is true this is scarcely so hygroscopic as the natural unguent; but so far it is the best substitute. Whatever is used must be quite fresh and sweet; the fatty acids produced by the decomposition of oils and fats are peculiarly injurious, and it is to be feared that the existence of such in many of the ordinary pomades is only concealed by the perfume. The three requisites, then, are cleanliness, air, and due lubrication. Those to be avoided are close covering of the head, pressure, and irritation by fine combs or hard brushes.

Should baldness have shown symptoms of appearing, more energetic measures are needed. The scalp must be cleansed, but it must also be roused by more stimulant remedies. One of the best is Hebra's solution of soft soap in alcohol. Two parts of the best soft soap are digested for twenty-four hours in one of rectified spirit, filtered and perfumed. With this and warm water the head is thoroughly washed at first daily, then, as the scalp becomes clean and the loss of hair lessens, once in two or three days, and finally once a week. The soap must be completely removed from the hair by a douche of warm water, and the head dried with a soft towel. When the hair has become dry, the head should be anointed with the same dressing as before, with the addition of ten or fifteen grains of the purest resorcin to each two ounces. Other applications are also useful, as tannin pomade—one drachm of tannic acid in six of lanoline and two of sesame oil; or a lotion of chloralis hydrati ʒi., glycerini ʒiss., sp. vini rect. ʒiv., aquam ad ℥vj.; at the same time the general health must be looked after.

In alopecia areata the progress of the disease appears sometimes to be arrested by blistering the patches and the scalp for a little distance round with acetum cantharidis; or rapid and sharp stimulation with oil of mustard may be employed.

℞ Ol. sinapis . . . . ʒi.
Ol. ricini . . . . ʒii.
Sp. rosmarini, ad . . . ℥iv.
——M.

This must be used with caution, not rubbed on, merely painted on with a brush once or twice a day, according to the sensitiveness of the skin. It causes an immediate reddening of the scalp and a painful sensation for some minutes. Croton oil can also be employed if the patches are small, the patient an adult, and the skin not atrophied. It is best painted on pure, and covered with a film of flexible collodion, and this allowed to separate spontaneously. But of all the stimulants I have used, the one which has given me the most satisfactory results has been that originally suggested by Sir Erasmus Wilson [1]—

℞ Liq. ammon. fort,
Chloroformi,
Ol. sesami aa. . . . . ℥ss.
Ol. limonum . . . . . ʒss.
Sp. rosmarini, ad . . . . ℥iv.
——M.

Dispense in stoppered bottle.

This lotion should be rubbed gently into the bald part at first once, and then, as tolerance becomes established, twice a day, and steadily persevered in. Bulkley [2] prefers the Unguentum veratrinæ of a strength of 5 to 10 grains to the ounce. Crocker has a high opinion of the following—

℞ Hyd. perchlor. . . . 2-5 grains
Sp. vini rect. . . . ʒi.
Ol. terebinth. . . . ʒvii.
——M.

the smaller proportion is used in the first instance, the strength being increased as the patient can bear it. This is rubbed in with the finger into and around the patch night and morning. It can be employed for the face. Internally, Fellows' syrup of the hypophosphites may be prescribed, one teaspoonful in a large

[1] *Lectures on Dermatology*, 1878, p. 164.
[2] *New York Med. Record*, March 2, 1889.

wine-glassful of water three times a day, ten minutes before meals. This, too, should be continued for months, with occasional intermissions of a week or two. All other roborant measures should be used. Cold salt water bathing, a sea voyage, or a holiday among the hills or mountains, are all valuable in aiding a more rapid restoration of hair.

In view of the possible communicability of alopecia areata, should those affected be isolated? This is a question which is assuming importance, and such should at least have their heads covered when at school, regularly washed daily, and treatment should be steadily persevered in. Still, seeing that the duration is so indefinite, that we are quite ignorant which cases may be regarded as contagious, and which not, and at what stage contagiousness, if present, ceases, it may in the meantime be too much to insist on absolute isolation.

A question still remains: Does repeated cutting or shaving strengthen the hair? In one sense it may be said to do so, in another its influence is more doubtful. When the hair is weak and the activity of its growth impaired, as after some feverish or inflammatory condition of the general system, cutting the hair short, and still better, shaving it off, at once removes the drag on the hair papilla and hair follicle, which the weight of the hair singly and in mass exerts. This gives the hair time to recover, while the scalp can at the same time be kept clean much more easily, and stimulant remedies which serve to increase the *vis a fronte* exercised by the healthily growing hair may be used with greater advantage.

But it has been commonly stated, when the fragments of hair daily removed by shaving are pieced together, they, in the aggregate, exceed the rate of growth of the hair untouched by the razor. While this has been repeated indefinitely, no data on which this is based have been furnished. Behrend,[1] however, has controverted this opinion. From a series of careful measure-

[1] "Ueber dauernde Beseitigung krankhaften Haarwuchses:" *Berliner klin. Wochenschrift*, 1886.

ments, extending over many years, he has found that the growth of pointed hairs proceeds at the same uniform rate as that of the cut hairs. It is indeed not very clear how the cutting of the hair could influence the hair papilla, at least to any sensible degree. But he has also shown that the fallacy arises from the fact that the cut end of the shaven hair is really thicker than of the uncut at the same level. This is due to fissuring of the stump and to the entrance of air into the hair shaft and medulla. Cutting and shaving the hair, therefore, are valuable, because they lessen the weight of the hair, allow more free circulation of air through it, and permit of the scalp and hair being more readily cleansed and more perfectly stimulated.

Another popular fallacy is, that when the beard is permitted to grow, the tendency to baldness on the scalp is increased. This is not borne out by careful observation.

Alopecia areata will be found represented in the *Sydenham Society's Atlas*, Plate VI.

CHAPTER XXIX.

CONNECTIVE TISSUE NEW GROWTHS—KELOID, FIBROMA, XANTHOMA.

The three morbid conditions of the skin which are included in this chapter have been grouped together as benign, since they do not exhibit any tendency to degeneration or to form ulcers.

(1) *Keloid.*—This has been named a disease of scars, but the scar from which it takes its origin is in many cases hypothetical, since its existence was unknown to the person on whom the keloid developed. Consequently Mr. Hutchinson has modified the expression, and states that keloid "never begins except in wounded tissue,"[1] though, once started, the process involves healthy skin. The disease starts as a cell infiltration round the vessels of the corium, but when fully developed it consists essentially of a mass of dense fibrous tissue embedded in the corium at various levels. This contracts to such an extent that when cut into it creaks under the knife. The epidermis is stretched over it, but is otherwise unaltered, unless where the cicatrix had been, if this is demonstrable.

Clinically it assumes the form of a nodule, which may rise abruptly and in isolated fashion from the surface, or as raised glossy growths, flat on their surface, and with irregular margins, from which claw-like spurs project laterally. It has a peculiarly smooth and polished appearance, and numerous dilated vessels

[1] "On the Conditions which precede Keloid:" *Medical Times*, May 23, 1885.

may be seen in some instances ramifying over its surface. The colour may be white or pale rose pink. When pinched up it feels firm and dense, and somewhat elastic. It may be tender to pressure only, or may be spontaneously and intermittingly painful. In some instances it is the seat of severe itching, in others a burning sensation is complained of.

While its most common situation is over the sternum, though not necessarily exactly central, it may occur on the back or extremities, occasionally on the lobes of the ears, seldom on the face. Females appear to suffer from it more frequently than males, it occurs chiefly in adult life, and in no way affects the general health.

Besides the usual variety characterised by the raised bossy patch, Mr. Hutchinson has described another which he calls subcutaneous keloid. Of this the following seems an instance.

94. J. H., forty-two, coachman in country town, came 6th May 1885, sent by Dr. John Duncan. He was a strong and healthy-looking man, was never ill, and there is no history or evidence of syphilis. The upper lip, to inspection, looks broad and thick, and not mobile. On palpation there are felt in its substance dense masses, producing a sensation to the grasp like gristle, not painful on pressure, and distinctly seated in the subcutaneous tissue. He stated that it began a year before on the right side of the lip, a fortnight after he had been shaved by a barber when in Edinburgh. Some hairs were extracted and examined, but these showed no evidence of disease, and there was no external appearance of tinea barbæ, while, if due to shaving, the period of incubation was unusually long. The swelling gradually extended from the right to the left side, and now the largest subcutaneous nodule is situated there. These are not the projecting hard nodules seen in rhinoscleroma, but I thought it might be sarcoma of the skin, and Mr. Hutchinson states that the diagnosis of this deep form of keloid "from sarcoma of the skin is difficult."[1] He returned in September 1885,

[1] *Op. citat.*

and informed me that the swellings in the upper lip became gradually smaller during the summer, and these have now entirely disappeared, but the tissue of the lower lip below the reddened part has now become invaded by similar subcutaneous hard nodules; these feel painful when driving. He was not again heard of.

The causes of keloid are in many cases injuries of the skin. Thus keloid has developed in the ear after boring for earrings, in the places where sutures have been inserted to unite a wound, in the incisions made by the cupping knives, after scraping for lupus, and scarifications, as suggested by Dr. Balmanno Squire, for the removal of port wine marks, in leech bites, in the pits left by smallpox, and the scars after acne. When all those may occasion it, how easy it is to believe that some scratch or slight injury may be the overlooked starting-point in nearly every instance. The anatomical features of the so-called idiopathic and cicatricial keloid are the same, but the termination is more favourable in the one than the other.

"The more definitely keloid restricts itself to scar tissue, the more certain is it that spontaneous cure will take place." When a certain size has been reached the growth ceases to insinuate itself further, and remains much the same, or, even in the idiopathic form, resolution may occur.

Sometimes a peculiar hypertrophy of a cicatrix may develop which resembles keloid: this is seen in the scars left after extensive burns, or on the neck after the suppuration of strumous glands. It is usually redder, more vascular, and not so hard as keloid. This form tends to become flattened down in course of time, and may spontaneously disappear. Excision cures such completely, while they seem sometimes to receive benefit from the continuous application of mercurial plaster.[1] Non-pigmented sarcoma of the skin—a very rare disease—may simulate keloid; but this, though isolated and with a continuous surface at first, breaks down and ulcerates in course of time, which keloid never does.

[1] *Annales de Dermatologie et de Syphiligraphie*, March 1890.

As regards treatment, it is evident that, originating in scar tissue, actually or presumably, or in injury to the skin, excision is not admissible as a means of cure, since a recurrence is nearly certain, and in an aggravated form. This applies more particularly to the prominent form. Hutchinson has successfully removed the nodules in two cases of the subcutaneous variety. Electrolysis has been used with success in one case by Hardaway.[1] In a woman of thirty, after the extirpation of a small nodule of keloid on the chest, a second developed and attained the size of a shilling. This was the seat of constant sensations of pain and burning. On several occasions this was operated on by multiple punctures of the electrolytic needle,—now tattooing the surface of the lesion, now bringing the needle in various directions into its interior. The keloid disappeared in course of time, having commenced to do so during the progress of the electrolysis, the pain ceased, and a flat, pliant scar resulted. Leloir and Vidal recommend multiple cross scarifications carried as deeply as the growth. These are to be continued till there is a uniformly pliant and thin cicatrix with no trace of keloid remaining from which the growth may be reproduced.

(2) *Fibroma.*—This is not properly a disease of the skin, but one of the subcutaneous areolar tissue, though in some cases it produces secondarily remarkable alterations in the integument. It is perhaps better known as molluscum fibrosum, a misleading appellation, since it has no connection with, and hardly any resemblance to, molluscum contagiosum. The tendency to its development is a congenital one, though the subcutaneous tumours which characterise it may not become observable till the age of five or ten years is reached, and the number of distinct growths may increase steadily through adult life. "On the whole, the various changes in the skin which we rank as molluscum all tend to become more conspicuous as age advances. This is perhaps partly accounted for by the senile atrophy of

[1] *Annales de Dermatologie et de Syphiligraphie*, April 1887.

the skin which permits of their exposure."[1] In the more usual form the disease exhibits itself as rounded elevations seated under the skin, which feel firm and tough, but not hard; they have a somewhat elastic consistence. The skin over them may be loose and movable, or stretched, and then it can only be pinched up with difficulty. Their ordinary size is from a pea to a marble, but in some cases a much greater bulk is attained.

Some of these tumours in course of growth become pedunculated, and push the skin before them as a sort of pouch. The pedicle or neck seems in time to be obliterated, and the tumour itself to atrophy, hence all that finally remains may be an empty fold of loose skin, "like a little purse out of which the money has vanished." The process just described may assume exaggerated proportions, and large flaps of skin, instead of mere pouches, may hang down in folds. This condition has been called dermatolysis. Several instances have been recorded; one by Dr. Frische will be found in the *Clinical Society's Transactions* for 1873. Exactly the same course of events may occur in aged females, in whom the functionally dormant mammary gland has wasted, and the fat become to a large extent absorbed, so that a loose, conical double flap of skin represents what was once a well-developed bust.

Similar fibromata have been met with in the mouth, beneath the mucous membrane. No subjective sensations accompany them in either situation, nor do these growths exhibit any tendency to inflame.

The tumours themselves are composed of fibro-cellular tissue, often wide-meshed and loose, enclosed in a dense connective tissue capsule. They have their origin in the deepest parts of the corium, or in the most superficial of the subcutaneous connective tissue, starting in the first instance from the fibrous sheaths of the glands or vessels, or according to Payne in

[1] Hutchinson, *Lectures on Rare Diseases of the Skin*, 1878, p. 199.

nerve-sheaths.[1] According to Robinson,[2] the central portion is more or less soft and pulpy, and a little yellowish fluid may be squeezed from it. Comedones are found in the skin over them.

Little is known as to the causation of these fibromata. Taylor[3] has recorded one instance where localised fibroma resulted from a bite, and another where bruises might have been the determining cause, but as these were sustained when the patient—a female, and not very intelligent—was a girl of six, the connection is more than doubtful. Hebra states that all the cases which came under his observation "were stunted in bodily growth, and of more or less limited mental capacity,"[4] but this has not been universally conceded by other observers, and Hutchinson remarks on this that "allowance must be made for the fact that severe molluscum makes a curiosity of a man, and shuts him out from some of the benefits of society." Embryology may aid in explaining this. Payne[5] points out that the nervous system as a whole arises from the epiblast, which also produces the epidermis, from which again, by involution, are derived the cutaneous glands. Hence the congenital imperfection in the connective tissue may in some instances similarly implicate the brain. A hereditary tendency has been noted in some cases.

The diagnosis is easy, and they can only be confounded with multiple cutaneous cysts. These latter, which are familiar to all as wens, seen on the scalp, are occasionally distributed in numbers on the trunk and extremities.

I recorded an example, in which at least two hundred and fifty were present, in the *Edinburgh Medical Journal* for September 1873, and an almost identical case was shown at the Edinburgh Medico-Chirurgical Society by Dr. P. H. Maclaren

[1] *Trans. Clin. Soc.*, 1889.
[2] *Manual of Dermatology*, 1886, p. 556.
[3] *Journal of Cutaneous and Genito-Urinary Diseases*, May 1887.
[4] *Diseases of the Skin*, Sydenham Society, vol. iii., p. 344.
[5] *Transactions of the Pathological Society of London*, 1887.

during the session of 1886-87. These cysts do not, like fibroma, commence in early life. In some cases they inflame, and may thus disappear. When small they feel hard, and the skin is movable over them, but in the case of the larger it becomes adherent, and fluctuation can be made out.

As to treatment when the fibroma is small, the plan recommended and found successful by Dr. G. H. Fox[1] may be adopted. He employs fifteen cells of a constant current battery, and transfixes the growth with the electrolytic needle on a level with the surrounding skin, first in one direction and then at right angles to this, allowing the electrolytic action to proceed for about ten seconds at each insertion. The result of this is that for about twenty-four hours the growth is slightly swollen and inflamed, and a hot fomentation should be applied to it. In a few days it shrivels up, possibly forming a minute crust or slough, and in a few weeks there remains nothing more than a slight cicatrix to denote the site of the operation. When larger and causing inconvenience, the growth may be excised, as was done with good effect in a case exhibited to the Medico-Chirurgical Society of Edinburgh by Dr. Joseph Bell in January 1880.

(3) *Xanthoma.*—This disease, first briefly described by Rayer, and more fully by Addison and Gull, occurs in two forms, sometimes entirely distinct, more frequently combined, and possibly in a third, which bears some as yet unexplained relation to diabetes. In the one case it is limited to the eyelids, in the others it is scattered over the general surface.

(*a*) *Xanthoma or Xanthelasma palpebrarum.*—This is a disease of adult or middle life. Of seventy-four cases recorded by Mr. Hutchinson,[2] the youngest was aged twenty-eight, the oldest fifty-nine, when the disease began, the average being forty-two. Dr. Ogilvie Will of Aberdeen mentioned a case to me which occurred in a lady aged twenty-two, who had a well-

[1] *Electricity in the Removal of Superfluous Hairs*, p. 57. Detroit, 1886.
[2] *Illustrations of Clinical Surgery*, p. 145.

marked arcus senilis. The eyelids were affected, but there were also patches on the hands and legs. The latter faded somewhat under observation. It is characterised by the appearance of yellow patches on the eyelids. These form first above or below the inner canthus as one or several patches, which may remain discrete, or coalesce, so as to produce a half circle. The lesions are flat, smooth, well-defined, and slightly prominent, and may vary from a pale lemon yellow to a buff or deep orange. They have been aptly compared to a piece of chamois leather let into the skin. When pinched up they feel soft. After having reached a certain size they cease to grow larger, but do not disappear. As a rule they first show themselves on the left side, secondarily invading the other, and finally assuming a fairly symmetrical arrangement. They give rise to no subjective sensations.

Sections made from a patch removed from the eyelid of a woman of middle age presented the following appearances. The epidermis was normal. The corium throughout its structure, but more particularly in its superficial parts, was infiltrated with leucocytes; some of these had become granular, and in addition groups of finely granular material were found between the fibres of connective tissue, arranged in lines or aggregated into masses. The sebaceous glands were unaltered in structure, and the granular deposits bore no apparent relation to them, nor were they found as deep as the coil of the sweat glands. Crystals of cholesterine were also found lying free. The relation of the granular masses to the eleïdin has not yet been stated. The yellow colour of the patches is due to the granular deposit. This Korach regards as bleached pigment, altered bile colouring matter, since it is unaffected by ordinary reagents.

Mr. Hutchinson looks upon xanthelasma as a "direct consequence of frequent disturbance of pigmentation of the eyelids, by whatever cause produced." It is certainly remarkable in how many of his cases repeated sick headaches had been complained of by those who later on became affected with xanthoma.

He calls it a *retrospective symptom*,[1] as revealing a bygone tendency to repeated temporary health disturbances, attended by dark areolæ around the eyes. Two-thirds of the cases are in women, and such dark circles round the eyes are far more common in them than in men, the recurrence of menstruation, ovarian disease, bilious disorders, pregnancy, or mere fatigue being sufficient in certain individuals to cause these. The commencement on the left side may be associated with the peculiar frequency of capillary nævus on that side, and with left infra-mammary neuralgia.

The diagnosis can cause no difficulty. In treatment, excision can scarcely be recommended, partly because if much tissue were removed the puncta lachrymalia might be displaced, partly because this could have no influence on the extension of the disease. Dr. G. H. Fox has succeeded in removing the disfigurement in one case by electrolysis.

(*b*) *Xanthoma multiplex* is a rare disease. As contrasted with the other form, it has been encountered in children, two cases, not strictly congenital, but occurring within a few years of birth, having been shown by Mr. James Startin at the Pathological Society of London in 1880, and three by Dr. S. Mackenzie, in which it was noticed at birth. In these the eyelids were spared. In other instances, however, it developed in adults, and was scattered over the body, in particular on the soles and about the flexures of the palms, and also on the elbows, or joints of the fingers. It assumes a tubercular or rounded form rather than flat patches. In many of the cases it was found also on the eyelids; in some it began there. Some had had antecedent jaundice, but in at least two this symptom was not present, so that there is no invariable connection between jaundice and multiple xanthoma, as some have believed. Xanthoma has also been seen inside the mouth, and on the cornea. It can only be confused with urticaria pigmentosa, but the entire absence of wheals and subjective sensations is distinctive. Treatment is

[1] *Pedigree of Disease*, p. 107.

inapplicable to the multiple form, but the entire spontaneous disappearance of the lesions, leaving merely a bronzed condition of the skin, has been recorded by Hardaway.[1] The case presented originally the plane, tubercular, and tuberose varieties, which gradually vanished in course of four years.

(*c*) *Xanthoma diabeticorum* is to some extent a misnomer, as though most of the few cases hitherto recorded have been met with in persons whose urine contained more or less sugar, this was not invariable. The eruption first shows itself on the dorsal aspect of the extremities, especially of the forearm. It appears suddenly, but it spreads to other regions either continuously or intermittently. The most common position is the elbows and knees, where it is generally confluent, but it occurs also on the nates, and has been seen on the mucous membrane of the mouth, not apparently on the eyelids. No special subjective sensations precede the evolution, but, when fully developed, pruritus or tenderness on pressure may be noticed.

The individual lesions consist of nodules, of a size varying from a pin's-head to a pea, and are elevated a little above the surface, except when they are on the palms or soles. They are firm, well-defined, rounded, cone-shaped or irregular, and for the most part discrete. The small nodules are reddish, but pressure causes a yellowish tint to become manifest, deep in the centre, the periphery continuing red. In the larger ones the external part is reddish, while there is a distinct yellow spot in the middle. Dilated capillaries course over the surface, and the lesions as a rule are in the neighbourhood of the hair-follicles.

After some months or longer, even years, the eruption lessens in amount, then rather rapidly disappears, leaving little or no trace.

The microscopic appearances have been studied by Bristowe Crocker, Malcolm Morris, and most recently by Robinson;[2] considerable discrepancies occur in the accounts, but the latter

[1] *Journal of Cutaneous and Genito-Urinary Diseases*, January 1890.
[2] *British Journal of Dermatology*, April 1891.

author regards the condition as identical with xanthoma. It differs from ordinary xanthoma in certain particulars. The eruption both appears and vanishes more suddenly. The nodules are firm and hard instead of being soft as in xanthoma. The yellow colour is either absent or localised in the centre of the nodule, while in xanthoma the whole is stained uniformly yellow.

The eruption in all the observed instances has faded in time, but all remedies which act favourably on the diabetes influence the rash also for good.

Keloid is well depicted in Plate L. of *Tilbury Fox's Atlas,* and more widely diffused in Tafel LX. of *Neumann's.* The latter also represents non-pigmented sarcoma of the skin in Tafel LXIII. Fibroma is shown in Plate XVIII. of the *Sydenham Society's Atlas,* and dermatolysis in Plate LXIX. of *Tilbury Fox's.* Xanthoma, in both its forms, is represented in Plate LXII. of *Tilbury Fox's Atlas,* and as seen in various degrees of intensity on the eyelids in Hutchinson's *Illustrations of Clinical Surgery.* Xanthoma diabeticorum in *International Atlas of Rare Skin Diseases,* Plate XIII.

CHAPTER XXX.

LUPUS.

WHETHER we take into account the occasional difficulties in diagnosis which beset it, the terrible disfigurement which so often attends it, or the connection with tuberculosis which has of late come prominently forward as a question for discussion, lupus is one of those diseases which, though fortunately not common, is still intensely interesting. In relation to some of its forms there is yet much to be learned, while the proper treatment has occasioned greater differences of opinion in the past than in the case of almost any other disease.

All examples of lupus may be classed under one of three heads—

Lupus vulgaris;
Lupus erythematosus; and
Lupus verrucosus.

The tendency in all is to leave traces of their former existence, when cured, by the formation of scars; but those may sometimes be so superficial that they can after a time be with ease overlooked.

From the enormous mass of literature about lupus it is necessary to select what is useful, and to emphasise the salient points.

(1) *Lupus vulgaris.*—It is very seldom, indeed, that the opportunity is afforded of observing the very earliest manifestation of lupus in any given case, though we see the process being constantly repeated during the progress of the ailment.

A medical man once brought me his daughter, who suffered from an obstinate form of eczema succeeding measles. The face was covered with crusts, and moist weeping surfaces, and the skin was considerably swollen and infiltrated. But besides the eczema, I noticed and pointed out to her father a small nodule, twice the size of a pin's-head, seated in the skin, and of a brownish-red colour, near the ala of the nose on the left cheek. A slight touch with the sharp spoon caused it to break down, and I therefore scraped it thoroughly from its bed. The eczema, after the removal of the crust, was treated with unguentum vaselini plumbicum, and the little wound as well. Years after the faintest trace of a scar was all that remained, and no new nodules had developed.

The primary eruption in lupus consists of nodules the size of a pin's-head to a millet seed, of a brownish or bright red hue, deeply embedded in the corium. These pale a little under pressure, but do not disappear. The epidermis over them is smooth, its wrinkles are obliterated by the slight tension. The nodule at this stage has been aptly compared by Mr. Jonathan Hutchinson to a minute drop of something like "apple jelly" set in the skin, for there is a degree of semi-transparency observable in the deposit. In any doubtful case it is most important to search carefully for these nodules, more particularly at the margins of a patch, where, as a rule, fresh deposits crop out, and where the subsequent changes which occur in the progress of the disease may not have taken place.

Another feature of those nodules is their soft consistence. An amount of pressure with a probe, which would do little more than dimple for the moment the healthy epidermis, will serve to embed it in the spongy tissue of the new growth. No subjective symptoms attract attention.

Advance, gradual in most cases, now takes place. Numerous thickly set nodules are developed, and these by their aggregation produce lupus patches, irregular in outline, though commonly having a roughly circular form. The whole patch, however,

is not composed of lupus nodules, more or less in individual instances is due to a degree of inflammation and fibrinous deposit round and between these. The surface of these patches is uneven, due in part to the different extent to which individual nodules composing them have progressed, in part to retrogressive changes which have begun. Thus the centre is depressed here and there, and darker in colour from stagnation in the capillaries; or it may present more or less distinct scarring. The margins again are lighter in hue and somewhat elevated, and there may be outlying dots of primary efflorescences in the sound skin beyond. The general aspect of the patch is glossy, though here and there are affixed flakes of imperfectly formed epidermis which tend to scale off from their attachment. Sir Erasmus Wilson has compared such to "reddish transparent jelly effused upon the skin, and streaked with the ramifications of a few small blood-vessels." Or, frequently, such remind Mr. Hutchinson "more of the bruise on the rind of an apple than anything else."

The tendency in the localisation of such patches is not in the direction of symmetry. It is the rule and not the exception to find them when multiple arranged in different situations on the two halves of the body. The usual form in which we encounter lupus is a single patch, with, to adopt the singularly happy phraseology of Mr. Hutchinson,[1] "satellites." Still, instances do occur in which there are many patches nearly alike scattered over the whole body, and which had developed pretty rapidly after the earliest focus.

In a case of a little girl brought from the country, aged about eight years, there were between twelve and twenty such patches, and since some were placed on the elbow and under the knee, while all were quite dry, the disease had been regarded as psoriasis and treated accordingly. In this instance a most marked improvement took place under salicylic creasote plaster muslin.

[1] *British Medical Journal*, July 23, 1887.

Though the disease may now remain almost stationary for a time, the extension being so gradual as only to be measurable by months, eventually one of two changes takes place.

In one case the tubercles sink down and lose their shining surface, they undergo a fatty degeneration and are absorbed, at the same time the epidermis scales off in thin papery flakes, and the skin drying, may crack, and crusts form, but without any ulcer. From the continuous desquamation the term lupus exfoliativus has been attached to this. A smooth scar is left as the final result.

In the other case, the nodules coalesce and may attain the size of peas, then soften in their interior and disintegrate, having been transformed into a cheesy material loaded with pus. There are now ulcers, round or irregular in outline, with soft and loose edges, and a red granular base, bleeding readily, and little if at all painful. At times exuberant granulations sprout from the floor of the ulcer, and when the thick crusts are removed, the surface exposed has a raspberry-like aspect—lupus hypertrophicus. The secretion from the broken surfaces usually fills up the cavity, dries at the exterior, and becomes pretty firmly attached to the edges, thus concealing the amount of destruction which has taken place. This latter is proportionate to the depth to which the new growth has infiltrated the corium, and even more to the situation attacked. Thus, when the nose is diseased, not only will the skin, but the mucous membrane lining the nostril, be in many cases affected, and ulceration when it happens becomes doubly destructive. Besides this, the nose, like the ears, is inferior in vitality to the cheeks, and suffers more from cold. Hence lupus here more readily breaks down, and winter or exposure intensifies its virulence, and nullifies or arrests attempts at healing.

In the end repair comes in the shape of dense and solid cicatrices, in one instance rosy pink, and in another pale. These do not evince the same proneness to shrink and contract with age as scars usually do, perhaps because they develop

so sluggishly that they accommodate themselves to the position.

A peculiar variety of lupus vulgaris is the serpiginous. In this, instead of all the affected area being studded with nodules, with a slight predominance of these at the periphery, the nodules are limited to a band a quarter to half an inch broad, exposing a crenated and advancing edge. Within this all the processes of fresh deposit of nodules, and the disintegration and breaking up of these, are observable, while in the wake of the line is scar tissue. This form may be met with anywhere, but more frequently on the neck, trunk, or extremities than on the face. From its mode of progression the extent of cutaneous surface converted into cicatrix is far greater than in the disseminate variety.

Involution and ulceration are not mutually opposed processes, but may be seen side by side in the same individual, one portion of the patch scaling off while the nodules are being slowly absorbed, another pitted with ulcers destined to heal with difficulty by granulation.

The mucous membranes may also be the seat of lupus, seldom primarily, though the disease not infrequently starts at points where the skin and mucous surfaces come into relation at the orifices of the body, especially the nostrils. From the greater vascularity, the softness and moisture of the parts, the presence of various irritating influences, and the inaccessibility, as in lupus of the larynx, treatment is much more difficult than in the skin, and some measures of much value, to be described hereafter, are inapplicable. When the mucous membrane of the nose is affected, the chances of deformity are greater than if the skin alone be the seat of the disease, and lupus of the gums leads to loss of teeth and alteration in the alveoli and jaws. Lupus of the conjunctiva has been seen alone, much more frequently as an extension from the cheek. The disease may penetrate the orbit, destroy the eye, and attack the ethmoid, or penetrate the antrum. Yet in such cases, while the disease in

its early stages may be lupus, its later manifestations are more probably epithelioma.

Lupus of the female genital organs is decidedly rare, and while lupus affecting the groin may spread towards the pubes, or a secondary deposit attack the prepuce, primary lupus of the penis is yet an undescribed phenomenon.

In all its forms lupus vulgaris is, as regards its commencement, a disease of early life, appearing first between the second year and puberty. Statistics, it is true, would seem to show that it may apparently begin later, even up to the fiftieth year. But such statements rest almost exclusively on the evidence of the patients themselves, and when we consider that there may have been nothing to attract attention in the early stage, and that the disease when actually noticed may be a fresh outbreak of a long latent or originally but slightly developed lupus, the source of a possible fallacy is discoverable. It may be too strong an expression to say, as Kaposi has done, that lupus is never primary when it appears between thirty and forty, but such cases are certainly rare. It is more common in women than in men, and, in this country at least, is proportionally more frequent in country districts than in town. Three-fourths of the cases I see are from the country, or in country people now residing in town.

From the point of its earliest commencement being so commonly on exposed situations, more especially on the face, it has been conjectured that the germs of the disease may have been implanted in some minute lesion of continuity, yet the proof of its contagiousness is awanting. Persons have lived in the closest relationship with the subjects of lupus and yet remained unaffected. The children of mothers with extensive lupus are frequently quite healthy, and it is not common to find it in succeeding generations.

It has long been regarded as tubercular in its nature, yet the fact of a resemblance between true cutaneous tuberculosis and lupus vulgaris is insufficient to prove the identity of the latter

with the former.[1] A bacillus, in reaction and appearance corresponding to that designated the *Bacillus tuberculosis*, has recently been found scantily present in the nodules. Its sparing occurrence has been accounted for by the less favourable conditions for its development furnished by the cooler skin; yet in lupus of the mucous membranes the same slow progress is the rule. It may be that, identical in general characters with the bacillus met with in the lungs in phthisis, there may be some specific differences between them, not recognisable by our available tests. It is certainly strange that so seldom does any systemic infection follow; indeed, many of those suffering from lupus are otherwise in excellent health. No satisfactory proof has been furnished that lupus is most common in phthisical families. We can, it is true, in some cases elicit the fact that some relative has died of phthisis, but, considering the prevalence of this disease, such is no more than one would expect. Inoculation with lupus material has, it is said, produced tubercle in animals, but lupus has not been so reproduced in any recorded case. It is mainly from the morbid anatomy of lupus that the theory as to its essentially tubercular nature is upheld. Masses of cells, contained in a fine mesh-work, and permeated by vessels, are found embedded in the corium, with giant cells interspersed, and within them the bacilli are seen here and there. These cell-masses enlarge, encroach on the surface, and then necrobiotic changes, with increasing failure of vascularisation, take place in the centre of the nodules, extending outwards, and ending in exfoliation and absorption or ulceration. The greater part of the lupus nodule is incapable of organisation, but some portions contribute to the formation of the scar tissue which in the end replaces the nodule. In this process lymphatic vessels are included, and from the obstruction to the flow of lymph thus occasioned a spurious elephantiasis may result in the limbs.

A peculiar form of lupus has been described and figured by

[1] Leloir, *Le Progrès médical*, Oct. 4, 1884.

Kaposi,[1] in which epithelial projections downwards take place. These, which are continuous with the rete, map out the corium irregularly, and form a suitable basis for a transformation into carcinoma, which is in this way implanted in a secondary manner on a patch of lupus.

Errors in the diagnosis of lupus cannot be uncommon, since so many cases are permitted to attain considerable or even extensive proportions, without an effort being made to check the disease. This is not likely, however, to occur to anything like the same extent in the future, while our control over it has been of late very largely augmented. Instances of the disease in an early stage do not often come under the care of the specialist; the recognition of the complaint at its first commencement by the family medical attendant should result in further progress being arrested.

It would seem that lupus, having been once implanted, spreads by the lymphatic spaces, or creeps by the side of the minute vessels, and crops out somewhere near. A local injury may have determined the deposition of the primary nodule; eventually the blood must become infected in those cases where it appears at distant foci. The early recognition of the disease is thus of the highest importance.

To avoid mistakes, therefore, it is necessary to bear in mind the special features which characterise lupus, and mentally to compare these with others which resemble them, though due to another cause. The primary eruptive spots, consisting of small yellowish-brown nodules scattered throughout and embedded in the skin near older patches or at their edges, are the most valuable diagnostic signs; and combined with these, scars, if present, remains of former disease. When we have established the existence of these, and of the other morbid appearances which I have described, the history may be appealed to, and if this carries us back to a period antecedent to puberty as the era when the complaint first showed itself, and records a pro-

[1] *Pathologie und Therapie der Hautkrankheiten*, 1883, p. 664.

gress of extreme slowness and painlessness, the presumption is in favour of lupus.

When we have a brownish patch very superficial and desquamating, it may be taken for a patch of chronic eczema. Such are commonly seated on the neck. Eczema is more dense in consistence, and would almost certainly be at times moist or itch, which lupus never does. The lupus nodules, though small, would be found, and on pressure with a probe reveal their soft consistence. An examination of the whole body might discover an unmistakable eczematous surface, or a better marked deposit of lupus elsewhere. Should there be any crusts, their removal will in eczema lay bare an excoriated moist spot, in lupus an ulcer. Eczema, again, never leaves cicatrices.

Yet there is an extremely rare hybrid which combines in one the features distinctive both of eczema and of lupus, described by Mr. Hutchinson as eczema-lupus, "cases which look like eczema, but which are really lupus. In some cases an eczematous process seems to have preceded that of lupus, but in others the lupus disease appears to have produced eczematous inflammation."[1] Just at the time when these lectures were being published, a case illustrative of the peculiar form came under my care.

95. R. W., aged six and a half years, was brought to the Royal Infirmary in the middle of January 1888. He was a well-grown boy, the second of a family of six, all healthy but neglected. When eight or nine months old eczema appeared near the site of vaccination, but it is not certain how soon after vaccinia. He had, when seen by me, acute moist eczema of the head and ears, which wept much, and also some eczema rubrum of the shoulders and arms. After the surfaces had been cleaned by means of starch poultices, there were red, rough, nearly symmetrical patches on each shoulder, a central one on the nape of the neck, near the root of the hair, one on the left arm, below the insertion of the deltoid, and one on each side near

[1] "Harveian Lectures on Lupus," *British Medical Journal*, January 14, 1888.

the scapular edge of the axilla. At the margin of some of the patches were crusts, which on being displaced revealed superficial ulcers. The eruption itched considerably. Some parts, as those behind the ears, were plainly eczema, others, as on the shoulders and nape of the neck, looked more like a superficial lupus. Under Ihle's paste the whole eruption healed. On November 20th, 1888, those parts on the shoulders, arm, neck, and back which had exhibited the features of lupus presented white smooth cicatrices, neither raised nor depressed, the intervening skin was deeply pigmented, and the general aspect was exactly that of leucoderma; indeed, any one not acquainted with the history would certainly have described it as such.

It is difficult to see how any confusion could take place between lupus and psoriasis, if a thorough examination be made. Acne leaves scars, but the redness is vivid or purplish and not well defined, like the affected parts in lupus. The chief difficulty is between lupus and syphilis. This arises in two ways. Syphilis affecting the nose is often thought to be lupus,—very frequently because we may be unwilling to believe that the individual has had syphilis. One should never permit such an idea to have any weight in diagnosis.

96. A fine, healthy-looking countryman, about sixty, came to consult me as to his nose. For two years he had been subject to what had been termed erythema of the face. The nose looked pinched and scarred, with pliant white cicatrices, from its centre to the tip, and at the point was a red, glossy, dry scab. The edges of the part round this were not hard or elevated, but a red areola, which faded at its periphery, and certainly had an erythematous aspect, surrounded it. On removing the scab an ulcer was seen, which, though soft, did not yield so readily as lupus does to the spoon. It was, however, scraped carefully, then dressed with 1 in 1500 corrosive solution, and a mixture of iodide of potash and perchloride of mercury prescribed. No questions as to history were asked. The treat-

ment was steadily carried out, and two years after the nose had remained well.

97. A medical man in the country sent me a patient—a middle-aged woman, whom he had known for some time, and who had healthy children—to ask my opinion as to the advisability of scraping an affection of the nose and cheek. There was an ulcerated surface on the nose, thinly crusted over, and with a brownish-red infiltrated edge. The cheek presented a similar appearance. The disease had lasted some years, and three medical men had regarded it as lupus. There were no yellowish-brown soft nodules at the edges or beyond, and the woman had been quite healthy till the eruption appeared two or three years previously. Under emplastrum hydrargyri locally, and full doses of iodide of potassium internally, all was gone in a month.

The ulcer in lupus has been described; in that of syphilis, resembling it, the margins are thick and firm, the infiltration has a peculiar density, the ulcer, too, is often painful. It usually forms long after the primary disease has been supposed to have lost any hold on the constitution, and indeed after its very occurrence may have passed from memory. As Mr. Hutchinson remarks,[1] "many forms of tertiary syphilis scarcely perhaps imply any persistent disease of the blood. They are local remnants of former constitutional disease; a tissue which years ago was nourished by tainted blood, after a long interval, and possibly under some local exciting cause, becomes inflamed, and in the character of its inflammation affords evidence of its own morbid constitution, but scarcely of a still morbid state of the fluid generally." "There is a line of distinction between syphilitic symptoms which are symmetrical and those which are not so. The former prove blood taint still persisting; the latter are rather to be regarded as proofs of local vitiation of structure.

The final results in lupus and syphilis as regards the ulti-

[1] *London Hospital Reports*, vol. ii. p. 190.

mate condition of the nose are different. The small, pinched, button-like apology for a nose left by lupus is very different from the extensive destruction of bones as well as cartilage which syphilis in a severe form, or in an unhealthy or aged subject, produces. Of course there are all grades of disfigurement in syphilis. When merely scars are visible, those if multiple are more probably due to syphilis than lupus.

But the serpiginous variety of lupus has its homologue in syphilis also. There is a serpiginous gumma which advances slowly, and leaves like lupus white atrophic cicatrices in its wake. This, too, occurs later in life than lupus usually begins, and though it may attack the face, is often met with on the trunk. The same denseness of margin and reddish-brown infiltration round accompany this in its advance. Comparative progress is difficult to estimate rightly, and I have seen such a serpiginous gumma persist in its advance for many years, checked for a time by iodide, but ever ready to recommence its destructive march when the remedy was omitted. No doubt this was an extreme case, and the patient, an unmarried woman —though she admitted immoral relations with a man of loose life twenty years before—denied any primary disease, and had never been pregnant.

Such forms of lupus as pursue this migratory destructive course have been thought to own a composite origin, to be in fact lupus in a child which has also inherited syphilis, and thus to be modified in their characteristics. The case cited by Hans v. Hebra,[1] in which a child of syphilitic parents developed lupus, though it never showed specific symptoms in early life, is only presumptive proof that syphilis, when inherited, affords no immunity from lupus. The test of treatment is one which is fairly applicable to such cases. The employment locally of a good mercurial plaster, such as Beiersdorf's quicksilver plaster muslin, combined with the administration of iodide of potass or iodide and perchloride of mercury, will effect a rapid change in

[1] *Die krankhaften Veränderungen der Haut*, 1884, p. 446.

the features of the complaint for the better in syphilis, but will produce no alteration in lupus.

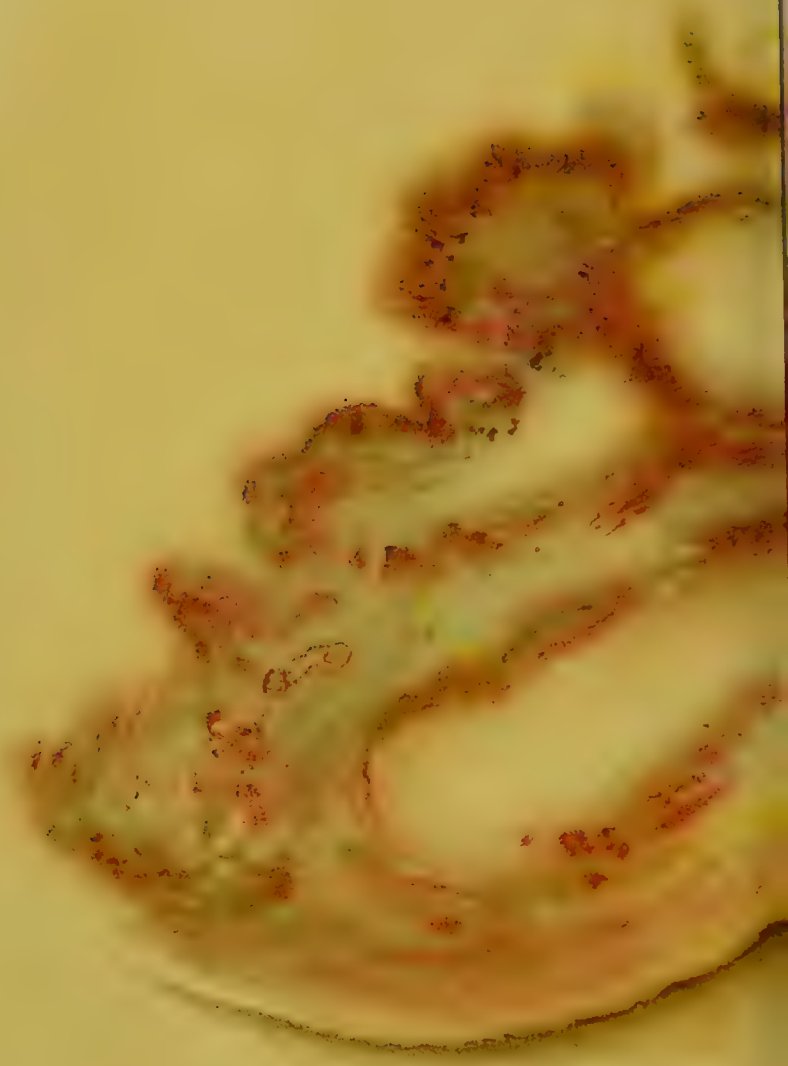
When traces of former disease, in the shape of scars, are present, these may aid in deciding between lupus and syphilis. The scar left by ulcerating lupus is thick and seamed, that which succeeds a gumma is thin, smooth, and white, sometimes with a well-marked ring of pigment surrounding it.[1] It would seem that none of the syphilitic deposit is capable of organisation, while some, though not much, of that occurring in lupus is.

We have sometimes in the skin true tubercular deposits, not merely ulcers caused by the breaking down of the skin over strumous glands which have suppurated. The connection of these deposits with lupus is still unsettled, but in them there is an absence of the yellowish-brown nodules. While scrofuloderma is not uncommon on the back of the hand and the arm, this tubercular affection of the skin is found close to those orifices of the body where skin and mucous membrane join. Tuberculosis of the skin commences primarily in the mucous membrane,[2] and only subsequently extends to the skin; the reverse is the case in lupus. Sometimes greyish nodules of miliary tubercle are seen in the mucous surface; these, according to Neumann, rapidly break down and become ulcers. For the following case I am indebted to Professor Chiene, in whose ward he was a patient during the summer and autumn of 1886.

98. W. R., twenty-one, mason. Father and mother, and two brothers and five sisters, are reported to be healthy, and none to have suffered from glandular enlargements or consumption. His disease began, according to his statement, as three small boils on the right buttock when he was seven years old. These burst and left ulcers which healed, but fresh pustules formed, and the area of disease extended. When seen there were dull

[1] An excellent account of the morbid appearances which enable us to distinguish between lupus and syphilis will be found in a lecture in Volkmann's *Sammlung*, No. 273, by Dr. Wolff of Strasburg, "On Late Manifestations of Hereditary Syphilis."

[2] Schwimmer, *Vierteljahresschrift für Dermatologie und Syphilis*, 1887.



TUBERCU

OF SKIN.

purplish-red, dry, somewhat elevated, scaly and thickened areas, occupying a space eight inches long by five broad, on the right buttock, and running up into the anus. These were rounded at their outer margins, and enclosed a dense ribbed and flattened scar. The ulcers were painful at times. The disease had extended into the rectum, and a fistula exists. The general appearances did not resemble lupus. There was also a cold abscess over the right scapula, the size of an ostrich egg. The man was pale, and presented other characteristics of the scrofulous diathesis. The patches were treated for some time with salicylic creasote plaster muslin, and then with zinc salve muslin, and he went out much better, though not entirely cured. Cod-liver oil was administered pretty freely. The plate conveys a better idea than any description.

Cancerous affections of the face, epithelioma, or rodent ulcer may be confounded with lupus. Such, however, seldom occur till middle age, and probably never before thirty. Epithelioma, too, begins as one semi-translucent nodule, or proceeds from a wart or accumulation of sebaceous material on the cheek or nose. Often, if small, epithelioma looks extremely like a mother of pearl button. The discharge from the ulcer is much less than in lupus, while the edges are firmer and the extension is more in the direction of depth than superficially. It must be borne in mind that lupus may undergo an epitheliomatous transformation.

The treatment of lupus has during the last twenty years passed through many phases, and though apparently near a more satisfactory settlement now, can perhaps scarcely yet be regarded as definitely settled. Excision and cauterisation by the actual or galvanic cautery may be rejected as removing sound tissue. Many of the caustics, too, such as chloride of zinc, arsenious acid, and caustic potash, have been abandoned. The mechanical methods, scraping by the sharp spoon, erasion, and scarification by the fine knife, repeated time after time, produced, it is true, a rapid alteration for the better in patches

suited for their employment, but they had this drawback, that they were both painful measures, and needed the exercise of resolution on the patient's part to permit their repetition as often as seemed needful, or the employment of chloroform as a general, of cocaïne as a local anæsthetic. Then the improvement was not always lasting; it was admitted from the first that the spoon could not reach the minute extensions of the disease along the capillary blood-vessels, for which scarification in one or other of its modifications was recommended. But with all care, fresh nodules would persist in cropping up, and unsightly keloid sometimes followed the linear scarifications even in experienced hands. The use of corrosive sublimate solutions, as a dressing after erasion, as suggested by Doutrelepont on the theory of the bacillar origin of lupus, certainly gave somewhat more satisfactory results, but the attack made by Besnier on all the bloody methods, as likely to lead to general constitutional infection, struck a severe blow at the mechanical treatment. The plan he recommended, of using pyrogallic acid dissolved in ether, so as to form a thin and closely adherent layer on the lupus tissue, covered with solution of gutta-percha in chloroform, was not satisfactory, while pyrogallic acid, from its tendency to cause gangrene of the tissues in some cases or in certain persons, is not the innocent and painless remedy which it was at one time thought to be.

Matters were in this position when Unna[1] published his remarkable paper on the treatment of lupus, which may be said to have revolutionised the management of this most formidable disease. A short history of this discovery may be given here. Led by his experience of the action of salicylic plaster muslin on thickening of the epidermis, and the mode in which this acid so used causes thinning and gradual exfoliation of the horny layer of the skin, without any destructive or injurious influence on the corium, he used it in lupus with the idea that it might

1 *Die medicamentöse Behandlung des lupus*, Von Dr. P. G. Unna; *Aerztliches Vereinsblatt für Deutschland*, No. 166, 1886; and *Lancet*, Sept. 25, 1886.

prove of value in preparing the ground for further treatment. So applied, a strong salicylic plaster muslin, of at least twenty per cent strength, not only removed the attenuated horny layer over the patch, but dissected out the nodules themselves as if a punch had been employed. This elective affinity of the acid for the new growth in lupus is possessed also by arsenious and lactic acids, and pastes made with the former have been recommended, and were used by Hebra in the treatment of lupus.

Salicylic acid, brought into close contact with the skin by means of plaster muslin, acts under special and peculiar conditions. "The plaster muslins consist of a very thin sheet of gutta-percha, coated on the right side with an adhesive substance —the oleate of alumina—containing one or more medicinal substances—and backed on the other side with undressed muslin." From the impervious nature of this plaster, which is peculiarly soft and pliant, and readily adapts itself to inequalities of the surface, evaporation is hindered, the skin is kept moist, and the action of the acid, which is non-volatile, is kept up during the whole period of its application. But salicylic acid causes severe pain when employed in this way in lupus, the degree of suffering being in direct proportion to the amount of acid in the plaster so used, while there is a corresponding increase or diminution of efficacy as the strength rises or falls. Thus a fifty per cent plaster is more painful and at the same time more searching than a forty per cent. The discomfort produced persists unabated all the time the plaster remains in contact with the diseased skin.

It became, therefore, of essential importance that some means of moderating or neutralising the pain should be discovered; and Unna, after numerous experiments, found that pure, true beech-tar creasote, when incorporated in the plaster to an amount double that of the salicylic acid, controlled the pain after a brief period absolutely. When the plaster is applied the acid makes its presence to be felt at once, while the creasote appears to anæsthetise the nerves very gradually. Hence pain

is experienced when such a composite plaster is used for ten to fifteen minutes—seldom longer—after the plaster is laid on, and then becomes extinguished. Immunity from further uneasiness lasts till a fresh piece of plaster is applied. As Unna expresses it, "Creasote is *the anodyne* of the surface of the skin," while it has the additional advantage of being a parasiticide.

The plaster muslins are made by Beiersdorf, Oelkersallee, No. 82, Altona, and are of five strengths. Each roll is rather over a yard long, and the proportions are expressed in grammes (about 15 grains). There are 10 salicylic acid and 20 creasote, 20-40, 30-50, 40-40, and 50-50. There are pharmaceutical difficulties in the way of incorporating more than 50 grammes of creasote in each roll, consequently the higher strengths are proportionally more painful. The brief period of preliminary pain can be much lessened by painting the surface with cocaïne solution each time the plaster is reapplied. The penetrative effect can be intensified by the superposition of a warm poultice.

It is always well to use as strong a plaster muslin as the part will bear; at the same time regard must be paid to the vascularity of the part, and the degree of delicacy or otherwise of the skin. I have never seen any bad consequences from the plaster during more than five years' use of it in numerous cases; but in one under Unna's care an erysipelas-like inflammation had occurred, necessitating the substitution of soothing applications instead of the plaster till this had subsided. I saw this case at Hamburg in 1886, and thought it possible it was a manifestation of some idiosyncrasy, or it may have been an intercurrent attack in no way due to the mode of treatment. Here it may be noted that erysipelas exerts no permanently favourable influence on lupus. In a case of lupus of the nose, the erysipelatous inflammation passed like a wave over the diseased portion, yet after its subsidence, the complaint remained unaltered for the better. Some have observed an improvement after erysipelas.

Besides the erosion of the nodules of lupus, there is a re-

markable lessening of the co-existent hyperæmia. The part becomes pale, while the nodules are shelled out, imparting a cribriform look to the surface. There is a very free discharge of sero-pus, and this, floating off the plaster, causes a cessation of its destructive effect. Hence it needs renewal twice a day. All crusts which form at the margins must be thoroughly removed, the discharge sopped up with absorbent cotton, and on the surface thus rendered dry fresh plaster should be placed, pressed firmly down, and if possible secured by a muslin bandage. Where there is difficulty in fixing a bandage, the plaster can be painted over with the zinc glycerine jelly, and covered with a film of absorbent cotton wool; or, should the patch be small, the film of wool laid over the plaster can be secured, if allowed to project a little, by painting it with flexible collodion.

Some cases will heal under the plaster treatment alone, especially if a milder form be used to replace the stronger employed at first. It is always a difficult matter to decide when the plaster should be given up and simple healing measures resorted to. It should not be discontinued till the nodules are replaced by pits in the white and soddened epidermis; or if pain, as sometimes happens, is so severe as to demand intermission for a time. It is certainly better to continue the plaster too long than to abandon its use too early, seeing that no harm is done to the sound portions of tissue.

When discontinued, the granulating surface left heals rapidly under the application of zinc ichthyol salve muslin, or a zinc ointment made with suet instead of lard, and containing two per cent of ichthyol. Aristol, a combination of iodine and thymol, has given excellent results as a dressing. The surface is washed clean daily, dried, and the aristol dusted on in small quantity, the process being repeated till cicatrisation has taken place.

The effect of this treatment is to cause an immediate improvement in the state of the lupus patch; and it may appear cured, but one application, or even several, will seldom completely

destroy all the ramifications of the new growth, and too often after a variable time, fresh, though small and superficial, nodules manifest themselves here and there. These are seen chiefly at the margins, but not exclusively so.

The employment of the plaster muslin is not incompatible with the use of the spoon. We may commence the treatment in cases where there is ulceration by scraping these out, and dressing for a time with 1 in 1500 corrosive solution. Then the plaster muslin may be applied and reapplied till the state is much improved, and merely isolated nodules remain. How are these to be dealt with? Mr. Malcolm Morris has devised a pyramidal double-threaded screw, which he inserts into the nodule and practises evulsion. Recently I have treated such very satisfactorily by inserting into each the point of a probe on which some chromic acid has been fused by the aid of a spirit lamp. This can be freely bored into the soft tissue, and on its withdrawal it leaves enough chromic acid behind in the little pit to act destructively in the lupus tissue. The part is then dressed till healed with zinc ichthyol salve muslin. Unna bores out the individual nodules with a sublimate pencil, and fills up the wounds with a salicylic and creasote salve, under which they are allowed to heal.[1] The nodules can also be destroyed by touching each point with a glass brush dipped in the acid nitrate of mercury, after scooping out the nodule with a small curette.

Lactic acid, as used successfully by Mosetig and Hortmann,[2] may in many cases be substituted for Unna's plasters. It cannot be applied to such extensive areas at a time, so that if the lupus has spread widely, the affected parts should be dealt with *seriatim*, and care be taken that the acid is not permitted to run down over the sound skin, else keloid may be produced. I have now employed it in a number of cases with most satisfactory results. It seems to act more quickly than the plaster, and the resulting cicatrix becomes sooner white. The pain caused by its applica-

[1] *British Journal of Dermatology*, No. 1, 1888.

[2] *Ueber die Behandlung des Lupus mit Milchsäure*, Wesel, 1886.

tion varies ; sometimes pretty sharp, in other cases it is described as being slight. The following method of using it, of those which I have tried, answers best. The part is washed clean with hot water, and dried. Then lanoline is smeared round the patch, any inequalities of margin being exactly followed, for the space of an inch, to prevent any injurious effects on the sound skin. A film of absorbent cotton wool is next saturated with the pure syrupy acid, squeezed gently to remove any superabundance, placed directly on the patch and pressed down. This is permitted to remain fifteen minutes, removed, the part again bathed with hot water, dried, and finally dressed with zinc ichthyol salve muslin, or with zinc ointment spread on muslin. The process as above described is repeated daily till the nodules seem punched out. This takes a variable time, in some three or four days, in others ten to fourteen. When this has been accomplished the acid is discontinued, and the salve muslin alone applied till cicatrisation is complete. A repetition of the course may be necessary on individual parts, but a great improvement is at once visible. The treatment can be carried out by the patients themselves, if the mode of procedure is demonstrated to them once or twice, and the progress inspected every few days, to ensure that the destructive action of the acid is not carried too far. The formation of a slough at any period is an indication that for the nonce the use of the acid is to be abandoned.

Tuberculin, which some for a brief period hoped would prove curative, has sunk to the level of a doubtful auxiliary. There can be no question that a marked temporary improvement has occurred in consequence of its use in a considerable number of cases, but in all this has ceased to be progressive before a cure has been effected, while in too many of these a relapse has appeared while the injections were being continued, or shortly after their abandonment. One can only hope that more extended observation may serve to indicate what cases may be best suited for it, and the limits of its applicability.

Illustrations of the ulcerating form of lupus vulgaris will be found in the *Sydenham Society's Atlas*, Plate III., and in *Tilbury Fox's Atlas*, Plate XLVII.; of the serpiginous form in the *Sydenham Society's Atlas*, Plate VII., and in *Wilson's Portraits*, Plate E; of lupus exfoliativus in *Duhring's Atlas*, Plate B B, in *Neumann's Atlas*, Tafel LII., in *Wilson's Portraits*, Plate A C, and in *Tilbury Fox's Atlas*, Plate XLVI., Fig. 2; of the multiple disseminate form, referred to on page 490, *Sydenham Society's Atlas*, Plate XIX.; the cicatrices resulting from lupus are seen in Plate T of *Wilson's Portraits;* tuberculosis of skin and of tongue in *Neumann's Atlas*, Tafel L.

CHAPTER XXXI.

LUPUS—*continued.*

(2) *Lupus Erythematosus.*—Though opinions differ as to the exact nosological position which this complaint should occupy,—whether, on the one hand, we are to look on it as a peculiar and chronic form of inflammation, the precise nature of which is obscure; or, on the other, as a condition allied to lupus vulgaris, and to be classed with it,—the latter view appears to me the more probable. The resemblances to common lupus are more numerous and more striking than are the dissimilarities; and when its distinguishing characters have been sketched and its relationships inquired into, these resemblances will be found to come into greater prominence.

Nearly as rarely as in lupus vulgaris have we the opportunity of observing the very earliest symptoms, since so little subjective annoyance does it occasion, that only when a considerable extent of surface has been invaded, and alarm has thereby been excited, is medical advice sought for. We may, however, see the initial process repeated by the evolution of fresh foci of disease near older affected parts. It commences by the eruption of small red spots from a pin's head to a lentil in extent, which are perceptibly elevated, and fade on pressure. They are not unlike the smallest puncta of psoriasis. Their colour varies from a pale yellowish red to a brownish red or purplish red, though naturally this is more evident when the area of disease has extended. The surface is smooth in the first instance, and,

while the margin is defined, the centre is slightly depressed. This can be in many cases accounted for by the localisation at a sebaceous gland, certainly the most common starting-point of the ailment. The centre becomes occupied before long by thin papery-like scales, more greyish than silvery in aspect.

There may be few or many of these spots, and their further progress is in one of two directions,—either the spots themselves enlarge and come in time to coalesce—*lupus erythematosus discoides*—or fresh blotches develop in the intervening spaces between those already existing—*lupus erythematosus disseminatus*. The characters of the eruption as a whole do vary a little as one or other of these modes of increment is more prominent, but not to such a degree as to render the diagnosis more difficult.

The margins of patches are invariably more distinctly defined and deeper in hue than the included part,—indeed this becomes levelled down, or undergoes a cicatricial change. In parts greyish scales, rough, shagreen-like in feel, clothe the surface, and when portions of these are forcibly detached, thready tags are seen depending from their under-surface—dried epidermis which has been drawn out of the dilated sebaceous follicles. The participation of the glands in the process is further evidenced by the co-existence of comedones in some instances. Unlike lupus vulgaris, symmetry of distribution is the rule. The nose, cheeks, lobe of the ears, hands, and, very rarely, the feet, are the situations most frequently attacked. In a man aged thirty-five, who came to me in January 1890, the eruption commenced when about fourteen on the lobe of the ears, but when seen it involved, besides the face, the whole of the chest and back. In the latter situation there were purplish red stains and blotches not unlike cutaneous hæmorrhages, with thin white cicatrices between. The knuckles and backs of the hands are oftener attacked than the palms, and in the latter situation the condition is more like simple erythema; while here—possibly in consequence of the

absence of sebaceous glands, and the smoothness and thickness of the epidermis—there is little or no scaling. Hyde[1] records one case where the disease began in the palm, and though in course of time it formed new foci on the back of the hand, it remained for a considerable period limited to its first position. In it the affected area was like eczema, dry and scaly. It is rare for the hands to be first affected in pure lupus erythematosus, usual in lupus verrucosus. Mr. Hutchinson has never seen the disease on the lower extremities. In one instance[2] I found it well-pronounced on the back of the great and little toe.

The bridge of the nose may be attacked earlier than the cheeks, and on the latter a broad wing-like arrangement is not uncommon, the resulting combination giving rise to the term "butterfly lupus," sometimes applied to this variety. But there may also be isolated well-defined discs scattered over the face and extending to the forehead.

The disease may be extremely superficial, resembling more a persistent erythema, as in a case exhibited by me at the Medico-Chirurgical Society of Edinburgh on 7th November 1888, or it may apparently penetrate deeper, some amount of plastic infiltration being present. The brilliancy of colour, too, waxes and wanes with increase or diminution of temperature, or with accelerated or delayed circulation in the part.

The age at which it first manifests itself is as a rule later than in lupus vulgaris—after puberty rather than considerably antecedent to it. While it has been seen in children, early adult life is the more customary season for its evolution, but it may show itself for the first time in middle age. The duration is protracted, though it now and again disappears, to return possibly after an interval. When it has lasted long, traces of its previous existence can usually be discovered as thin cicatrices.

[1] *Journal of Cutaneous and Venereal Diseases*, November 1884.

[2] A very extensively diffused case of lupus erythematosus.—*Edinburgh Medical Journal*, May 1878.

When hairy parts, as the cheeks or scalp, are attacked, baldness results from destruction of the follicles.

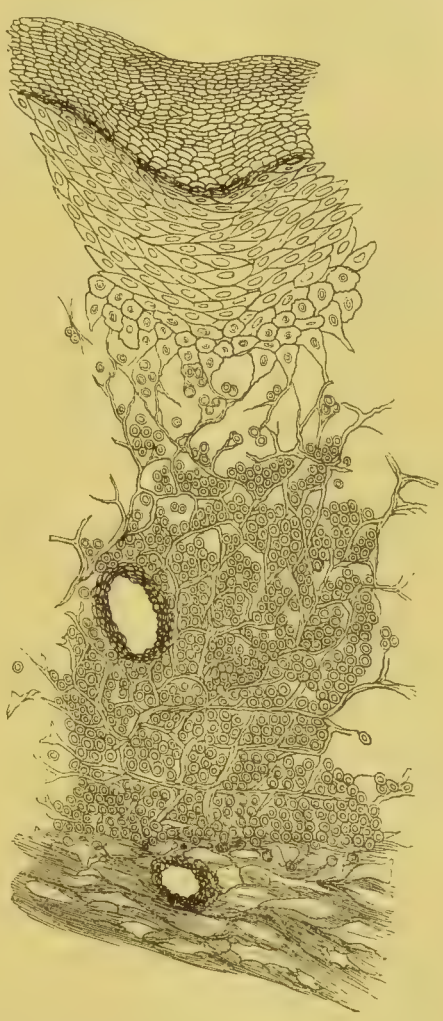
In course of time, often many years, and after having spread more or less extensively, the disease comes to a stand-still. The margins of the patches become paler, more level, and the area of disease is occupied by a white superficial and punctate scar, which may become hardly noticeable, or may continue distinct throughout life. The more erythematous the process the less the chance of ultimate scarring.

The origin of the ailment may occasionally be traced to a patch of eczema, or to some overheating of the surface. It prefers parts where there is little cellular tissue, and only a moderate quantity of subcutaneous fat, and which are specially liable to sudden variations in their blood supply from their distance from the heart, and their outlying position—such parts of the body, in fact, as are most prone to chilblains or to be frost-bitten. Thus we sometimes can trace a constitutional feebleness in the peripheral circulation.

99. A well-coloured, fresh-complexioned lady, of about thirty-five, consulted me about a lupus erythematous affecting the hands, one eyebrow, the bridge of the nose, and the lobes of the ears. On the dorsal aspect of the phalanges of each finger were reddish areas, something like those seen in erythema multiforme. The edges were well defined and the centres had a warty aspect. The condition was extremely superficial. On the face and ears the appearances were similar. About two years before the menses were irregular, and ceased for some months entirely. The loss has again become normal. Her circulation is feeble; her hands and feet easily chill in cold weather, while her face tends to flush. The bowels are sluggish, but can commonly be kept right by careful dietary.

Once started, it spreads serpiginously, the margin infecting by degrees the adjoining parts, showing very well the extension by continuity of tissue so often seen in cutaneous maladies. It is this characteristic on which Mr. Hutchinson relies as

separating lupus erythematosus from chilblains, to which in some instances it bears a fairly close resemblance. While local conditions set it up, there is a constitutional element also at work, of which the symmetry is proof, as well as the development at distant though corresponding points.



There is in many of those who suffer from it a previous disorder of the sebaceous glands of a congestive character, and this led Hebra, in the first instance, to term it seborrhœa congestiva, but the almost simultaneous researches of Cazenave induced him to adopt the better name of lupus erythematosus. Women are more frequently attacked by it than men, and while in neither are any marked or constant systemic disturbances observable, we do find in women digestive derangements occasionally associated with it.

The process essentially consists in a peculiar inflammation of the cutis, which results in its degeneration and atrophy, and therefore, as Kaposi very truly remarks, "it is not from inherent characteristics, but from practical convenience, that we class it with lupus vulgaris;" that is to say, that so far no evidence of

any new growth in the skin has been furnished, nor have any special micro-organisms been detected. My own observations revealed, as in the illustration, little more than densely crowded small-cell infiltration in the upper layers of the cutis, the meshwork of which was opened out. While the clinical evidence seems to point to the periglandular tissue as the starting-point, it would appear that it may originate near the coil glands as well as the sebaceous ones, since it occurs in the palm; and even granting this mode of origin, it is evident that its further mode of progress is not dependent on the presence of glands, but that the intervening spaces also become affected. The nutrition of the epidermis suffers as in all chronic inflammatory processes.

The diagnosis is not difficult, yet it may be mistaken by those to whom a disease not very common is unfamiliar. Careful search should be made for cicatrices in those parts where it is of oldest standing. If these are found, patches of dry scaly eczema, not infrequent in the same localities on the face, can be excluded, as can also tinea circinata and psoriasis. The rest of the body should be minutely examined. Lupus vulgaris exfoliativus exhibits yellowish-brown nodules embedded deep in the corium, which readily yield to the pressure of a probe. In acne rosacea the reddish patches are not limited by a well-defined raised border as in lupus erythematosus; there are dilated and tortuous venous radicles, and papules and pustules form, while there are neither the central cicatrix nor the firmly adherent scales. A recurrent erythematosus syphiloderm may somewhat resemble it. The distribution in the latter is, however, irregular, and the duration as compared with the extent of area involved much less. Besides, there is often polymorphism, though the absence or slight prominence of subjective sensations is similar in both conditions.

A question of importance is the relation to lupus vulgaris. So far as I know, a bacillus or any micro-organism has not yet been found in skin from the red patches of lupus erythematosus. A case which was under my care at the Royal Infirmary may

throw some light on this. In it a well-marked symmetrical lupus erythematosus of the cheeks passed imperceptibly into a lupus vulgaris of the alæ of the nose, with characteristic ulceration and crusting. The two diseases, too, ran inextricably into one another under and behind the lobe of each ear, one—the right—being more prominently affected than the other. The history was unfortunately obscure. This case would show either that the one disease may occasionally be transformed in appropriate situations into the other, or that the two forms of lupus may co-exist in one and the same individual. The patient, a woman, was lost sight of, but when last seen was, for the time at least, cured of both conditions, in so far as the lupus vulgaris had healed and the erythematosus had faded.

There are forms of lupus vulgaris which trench very closely on the limits in that direction of lupus erythematosus,[1] and we could almost construct a series of cases leading by gradual steps from the one to the other.

Some of the features of the disease are shown in the following case:—

100. J. S., twenty-four, domestic servant. Healthy young woman from south of England. Suffers from chilblains in cold weather. Three months since the present eruption came on while taking a course of arsenic for anæmia. The largest patch occurs on the left side of the nose near the eye, as a reddened well-defined patch covered with splintery, grey, epidermic scales. There are many other smaller spots scattered over cheeks, and one on the lobe of each ear, dry and warty. From the beginning of May till the end of June the patches were painted, at intervals of a week, with pure carbolic acid, and the face sopped daily, night and morning, with a lotion consisting of—

℞	Potassa sulphurata . . .	ʒi.
	Zinci sulphatis	ʒi.
	Glycerini	ʒi.
	Aquam, ad	℥iv.

[1] Dr. S. Mackenzie, *Trans. Clin. Soc.*, 1889, p. 15.

At the end of June the face had resumed its natural aspect, one very small spot still being faintly visible near the eye.

Judged by the number and variety of the remedies recommended the cure of lupus erythematosus is by no means easy, and such it has proved in too many cases. The success of some has been due to the tendency which the disease has to spontaneous disappearance, either temporarily or for good. Weak tarry ointment long persevered in, as Hutchinson advises, or oleate of mercury, as Liveing, may both succeed or both fail. Frictions with soft soap, pyrogallic acid, scarifications, and scraping have all their advocates. In the more purely erythematous form, where the disease is disseminated, and the raised margin is not so prominent, painting with pure liquid carbolic acid, at intervals of a week, or when the crust formed has spontaneously fallen off, does lessen the redness very markedly, and under its continued use many patches disappear, especially if this treatment is combined with the lotion of potassa sulphurata, the formula for which is given above. The application of zinc ichthyol salve muslin, after douching with very hot water every night, is of value in lessening the redness.

But the disease is apt to recur, and thus to discourage both patient and doctor. In the more severe and distinctly elevated forms the milder strengths of the salicylic and creasote plaster muslin, followed by the zinc ichthyol jelly, or the zinc ichthyol salve muslin, seem the most appropriate remedies. Lassar[1] recommends the application of Paquelin's thermo-cautery, and asserts that, so treated, none, or but the faintest traces remain. The edge of the platinum knife is used, the heat always under a red, the surface is lightly touched without pressure, and in a direction parallel to that of the skin. An extremely thin and superficial eschar is produced; when this separates the skin is seen to be smooth and delicate. The cauterised part is

[1] *Berliner klinische Wochenschrift*, No. 37, 1887.

merely powdered. If the disease is extensive several sittings are necessary.

(3) *Lupus verrucosus.*—This forms the third variety of lupus, and will be found to present characters which link it with lupus vulgaris on the one hand and lupus erythematosus on the other; while it is yet sufficiently distinct to be referable to a separate class, and to merit a special description. This is not the warty formations which sometimes develop on the floor of a lupus ulcer, which have given rise to the term lupus hypertrophicus; the warty growth is an essential part of the process. One of the best accounts of this form has been given by Professor McCall Anderson,[1] who claims to have been the first to assign it a separate place. There are in it no yellowish-red nodules as in lupus vulgaris, but it commences "by the development of small, circumscribed, dusky red or violet patches, often in the form of tubercles." These tubercles, which may be of the size of a split pea, may be isolated. More often they run together, so as to form patches differing in size and outline. Some of these may remain smooth or may suppurate, but the majority of them become partially covered with a wart-like excrescence. This warty transformation does not occupy the entire surface of the patch, the extreme edge continues free and forms a violet or purplish-red border. The warty part is elevated, and the whole patch can be moved over the subjacent tissues. If the warty substance be picked off, it is readily renewed. There is no ulcer beneath, merely hypertrophied papillæ. It is met with chiefly on the hands and feet, but may be seated also on the arm, and I have seen it once on the trunk. The knuckles are its most common locality. As a rule little pain or uneasiness accompany it, but a feeling of tension is complained of from the hard growths limiting the movements of the joints.

Like the other forms of lupus, it progresses slowly, and while it extends by continuity of tissue, fresh foci of disease make their appearance at points some distance from those first

[1] *Lectures on Clinical Medicine*, 1877.

attacked. In course of time, however, the warty protuberances fall off and are not reproduced, the patches flatten and become pale, and a white smooth cicatrix remains at last at the site of former disease. Cicatrisation may proceed at one part while the disease advances in another direction.

In all my cases, save one, a distinct strumous history could be obtained, and the one may not have been an exception. It will be noted that it apparently always begins on exposed situations—the hand, back and knuckles, not the palm, on the foot, the sole or the ball of the great toe, or dorsum of the foot; the nose and lip in one case. The colour reminds one more of scrofuloderma than lupus vulgaris, but the tint may even be reddish, not purple in all cases. The chronic course, the absence of pain or other subjective sensation except tension, and the formation of cicatrices without previous ulceration, are all like lupus. These bring it into relation with lupus erythematosus even more closely than with lupus vulgaris, and indeed Tilbury Fox has depicted the very condition under the name of lupus erythematodes in Plate XLV. of his Atlas. The warty hypertrophy has its analogue in the overgrowth of papillæ seen sometimes beneath the mortar-like mass of scales on the lobe of the ear in lupus erythematosus, and Mr. Hutchinson is of opinion that lupus erythematosus is especially common in phthisical families.[1]

Dr. Anderson has pointed out the resemblance those warty excrescences have to verruca necrogenica, while Riehl and Paltauf[2] have still further widened the analogies by their description of a disease which they term "Tuberculosis verrucosa cutis." This attacks persons of both sexes, but men in particular, and is found on the backs of one or both hands, sometimes on the extensor aspect of the fingers, or between these, seldom on the palms, or the adjacent parts of the forearm. It occurs in patches, varying in size from a lentil to a

[1] *Brit. Med. Journ.*, January 1891.

[2] *Vierteljahresschrift für Dermatologie und Syphilis*, 1886.

crown piece. In shape the patches are round, oval, or serpiginous, when several unite at their edges. These enlarge at their margins by the appearance of new primary lesions, so that in old-standing examples the earliest manifestations can be observed at the edges, while the central portions are at their height or are undergoing resolution. An enlarging patch is surrounded by a bright red erythematous band, smooth and glossy, and fading on pressure. Interior to this band there may be a brownish or livid zone composed of disseminated small pustules or their remnants. Nearer the centre, the surface becomes more raised and irregularly uneven, which increases centrally into warty formations. Crusts are usually seen on the surface of the central part. When pressure is exercised, pus exudes from between the papillomatous structures. Retrogression takes place, flattening of the warty excrescences towards the middle of the patch, and this may become slightly scaly or cicatrise. The patches and the resulting thin pliant scar are movable over the subjacent tissues. The only subjective sensations are a feeling of pressure during the developmental stage, which on firm contact may rise to pain. Those affected are all more or less engaged in tending animals or handling meat.

The disease is chronic, and the diagnosis is made upon the course of the disease as a whole, rather than upon any particular characteristic symptom. It differs from lupus vulgaris in not having any of the brownish-red soft nodules, and in being accompanied in its evolution by inflammatory symptoms, in showing no tendency to ulceration, nor to recur in the cicatrices. Again, while lupus vulgaris hardly ever commences after puberty, this form of tuberculosis has been met with exclusively in adults. From the vegetating syphilide it is diagnosed by the absence of the hard brownish-red infiltration of its margin and by its history.

Histologically, it presents the peculiarities of giant-cell tubercular structure. Bacilli, reacting to staining fluids like those of tubercle, and in other respects resembling those, were

found in the giant cells and elsewhere. Precisely the same structure was found in a nodule from a case of lupus verrucosus on a boy's hand.

The resemblance of this peculiar ailment to lupus verrucosus is thus close, yet it differs from it, inasmuch as in lupus there is as a rule no pustulation. This, however, was present in the following instance.

101. Mrs. C., sixty-six, whose mother and one sister died of consumption. Sixteen years since the disease began on the back of the right hand, and has steadily extended. There is a thick warty crust covering the whole of the back of the hand, which can be peeled off; and underneath this the skin is boggy, swollen, and undermined, and from openings here and there pus can be caused to exude. At the edges of the warty scab which covers the reddened thickened skin there is a red dry margin, which extends half an inch beyond the crusts. The knuckles cannot be bent easily or fully. She was treated with salicylic and creasote plaster muslin 20-40, the swollen flakes of epidermis being scraped off with the sharp spoon. Some months after, her medical attendant informed me that there was little disease left, the greater part having cicatrised.

Riehl and Paltauf think that the form of warty tuberculosis which they describe may have arisen from direct inoculation with the poison from tubercular matter, yet all those affected were strong healthy persons, who exhibited no signs of constitutional disease.

Another complaint, apparently related to both, is that described and figured recently by Leloir[1] as "suppurative perifolliculitis in patches." This is an acute disease reaching its point of highest development in about a week, and ceasing in three. On the hands and also on other parts, circular or oval sharply-defined patches of a wine red or bluish hue are produced. Individual patches project from a tenth to a fifth of an inch above the surface, and are permeated by a large number of sieve-

[1] *Annales de Dermatologie et de Syphiligraphie*, August 1884.

like openings which lead into small abscesses. All the examples recorded by Leloir occurred in persons occupied with cows or horses. One example in a butcher came under my notice. Quinquand seems, however, to think this a distinct process, and due to an infectious agent different from that of tuberculosis.[1]

But much more closely allied to lupus verrucosus and to tuberculosis verrucosa cutis is the well-known verruca necrogenica, which affects those in the habit of making post-mortem examinations. These wart-like growths occur most frequently and severely on parts which come in contact with the cadaveric tissues, and arise usually without any noticeable lesion of the skin, or from very insignificant scratches or fissures. In a butcher, aged twenty-two, whose hands bore a number of such warts, the starting-point was always in the scar left by a cut. A small, red, smooth nodule is first seen, on which a minute and superficial pustule forms. A crust is produced, which, if removed, is soon renewed. In course of three or four weeks a wart-like papilloma develops, which extends peripherally. Sections of one of these removed from the hand of Dr. Kolisko of Vienna showed a similar microscopic structure to that found in tuberculosis verrucosa cutis.

Now we have seen that micro-organisms which resemble and react like those found in true tubercle are met with in lupus vulgaris, and there is strong ground for believing that such are present in lupus verrucosus also. The differences between lupus vulgaris and lupus verrucosus are not greater than between lupus erythematosus and lupus vulgaris, while lupus verrucosus seems to form a link uniting the two. Is this not an argument for continuing to class lupus erythematosus with lupus vulgaris? There are essential clinical features which separate as well as which unite these, but the union seems more reasonable than the division. Lupus verrucosus, like erythematosus, may commence late in life. Like lupus vulgaris, it may occur in children. It is rare on the face, while the other two forms are common

[1] *Annales de Dermatologie et de Syphiligraphie*, 1889, p. 221.

there; yet on the hands it usually selects the same situations as lupus erythematosus does. There are in it no apple jelly or barley sugar-like nodules, but there are raised spots like lupus erythematosus,—all three leave scars, and all three affect but slightly the general health.

In the following instance the connection with lupus vulgaris was all but proved, while the tubercular element was unmistakable. The disease has lasted twenty-six years, and began at the age of twenty-six, and when last seen nodules identical with those of true lupus had recently made their appearance on the arms. The patient never carried out any treatment long at a time.

102. *Lupus verrucosus.*—Mrs. C., aged forty-five, came to me in 1879. Nineteen years before, and when seven months pregnant for the first time, the present eruption appeared. It began on the back of the right hand. Some years since an abscess formed under one of the patches, near the distal end of the metacarpal bone of the first finger. This was opened, and some pieces of bone were after a time extracted. A puckered depression is now visible over the distal end of the metacarpal bone of the thumb, and over the same portion of each digital metacarpal bone, and over the first and second phalanges the skin is thickened, red, and infiltrated. In the centre of each patch there is papillary hypertrophy. The skin there shows a warty overgrowth. The reddened or purplish edge of each of these patches is well defined. Besides the warty excrescences there are crusts in parts. A similar patch is found over the olecranon, and there are patches thinner in character and more like erythematous lupus on the forearm and inner side of the upper arm.

The periosteum of the radius in its centre is thickened, and a sinus leads down to the dead bone. She lived in the country, and, with the exception of some dyspepsia, had fair health.

Some months later one of the patches on the back of the hand was replaced by a flat white cicatrix. Her condition

four years after—in 1883—was as follows:—The patches of rough, warty growth with erythematous margins now extend over all the backs of the fingers, and have crept round to the palmar aspect of the fore and middle fingers. The arm is considerably swollen, and scattered here and there are brownish-red papules, smooth on their summits, somewhat resembling those of lichen planus, and which vary from a pin's head to a pea in size. In 1886 an appearance was seen on the arm which allied the disease more closely with lupus vulgaris, as there were several groups of nodules of a brownish-red colour quite indistinguishable from those characteristic of lupus vulgaris.

The analogy of such a division of lupus with lichen is worth noting. Lichen circumscriptus and lichen marginatus may be compared with lupus erythematosus, superficial in character; lichen planus and ruber with lupus vulgaris, more pronounced and more serious; and lichen verrucosus closely resembling lupus verrucosus, and like it found on the extremities almost exclusively.

The treatment of lupus verrucosus has been rendered much more simple by the introduction of salicylic acid plasters. Formerly the acid nitrate of mercury, or some other caustic, had to be resorted to for the destruction of the growth, and almost inevitably the sound skin perished in part also. Now the warty excrescences can be caused to peel off under the continuous action of the plaster, aided by the spoon, which causes the sodden and swollen flakes to separate more rapidly, and thus favours the action of the acid on the denuded portions. When in this manner the surface has become levelled down, if still raw and but imperfectly covered with epidermis, the reproduction of this is facilitated by some ointment, as zinc with ichthyol or boracic acid. The complete restoration of the skin proceeds finally under rather prolonged use of mercurial plaster, which aids absorption of any remaining thickening. Of course such internal treatment as may be deemed necessary, especially

iron and cod-liver oil, should at the same time be carried out —and this applies to all the forms of lupus without reserve —should there be indications for the exhibition of the remedies named.

Illustrations of lupus erythematosus discoides will be found in *Neumann's Atlas*, Tafel LIII., and in *Tilbury Fox's Atlas*, Plate XLV., Fig. 1; of lupus erythematosus disseminatus in the *Sydenham Society's Atlas*, Plate XLII., and in *Duhring's Atlas*, Plate C; of lupus verrucosus in *Neumann's Atlas*, Tafel LI., in the *Sydenham Society's Atlas*, Plate V., and in *Tilbury Fox's Atlas*, Plate XLV., Fig. 2.

CHAPTER XXXII.

LEPROSY.

One of the most conspicuous features of modern civilisation is the extent to which the facilities for travelling are taken advantage of. To counterbalance many real benefits thereby derived, there are certain positive or possible drawbacks. Thus some diseases endemic in regions of the globe, geographically far away, may and have been transplanted to other localities where they were either previously unknown or had long ceased to prevail. This rapid and largely increased intercourse accounts for the sporadic presence of leprosy, at one time widely distributed over these islands, but which, in obedience to a law yet imperfectly understood, has for more than a century ceased to exist otherwise in Britain. The interest which from various causes has recently been excited in leprosy demands that some attention be paid to its more salient aspects, so as to render the early recognition of a case as simple a matter as possible.

It has been defined by Leloir [1] as "a chronic parasitic disease, characterised by the production of neoplasms enclosing bacilli, which develop in the skin and mucous membranes, or in association with nerves, in the lymphatic ganglia and in certain viscera. It terminates fatally in nearly every case."

The incubation of leprosy is prolonged, perhaps the most prolonged in some instances, of any complaint with which we are acquainted. This varies, however; for there are examples in which it seems not to have been more than two to three years, while it

[1] *Traité pratique et théorique de la lèpre*, Paris, 1886.

may be as much as ten or even fourteen. Nor are the prodromal symptoms as a rule such as would attract attention as bearing upon its evolution, unless possibly in a country where its advent might be watched for. They consist of very irregular febrile phenomena, of feelings of weakness, fatigue, sleepiness, prostration, dryness of the nostrils and epistaxis, of headache and vertigo, neuralgia and cutaneous hyperæsthesia. Individually they present much indefiniteness.

Leprosy occurs in two well characterised forms, which are sometimes separate and distinct, at others combined so as to constitute the *mixed* or *complete* type. It is divided into the *tubercular* and the *tropho-neurotic*. The terms anæsthetic and macular applied also to the latter are insufficiently descriptive, since these conditions are common to both, though least pronounced in the tubercular.

Taking the tubercular variety first, as that which is most frequently encountered, it is seldom that the peculiar nodular growths appear primarily, the lepromata, as Leloir calls them, are usually preceded by the eruption of macules exhibiting various aspects, and which as a rule develop insidiously. These macules are not always so distinctive as to be at once recognised as leprous. Most frequently they consist of hyperæmic or erythematous blotches, the colour varying from a pale red to a violet or even a brown. The tint is most intense in the centre, but this may fade somewhat as the margin extends. Their surface is smooth as if oiled, and they are either on a level with the surrounding skin or a little elevated above it. In course of time those first developed disappear or may leave a trace of pigmentation. Fresh ones, however, take their place, are more persistent, browner, or even pigmentary from the outset. Anæsthesia, though at times observed, is not constant, while there may be primarily hyperæsthesia.

Brocq[1] states that at this period eruptions which are indistinguishable from those of erythema nodosum, accompanied by

[1] *Traité des maladies de la peau*, Paris, 1890.

rise of temperature, are apt to appear, also articular swellings of transitory duration.

Either on the situation of the patches described or on healthy skin the characteristic elements of the disease manifest themselves. This is the leprous tubercle, a species of hemispherical nodosity varying from a millet seed to a small nut in size. They are dense yet elastic to palpation, are of a pale or brownish red, now and then with a coppery hue, while over them dilated capillaries are apt to be found. The tubercles themselves may be discrete or are aggregated into rounded masses. They either form in the substance of the integument, or less often subcutaneously, in which case they escape notice unless the hand is passed over the part.

Certain regions are liable to be preferentially affected. One of these is the face and particularly the forehead, first the inner and later the external portion of the eyebrow, causing thinning and finally loss of the hair, the nose, lips, giving these a thick and swollen appearance, and the chin. The ear is likewise early attacked, the lobe presenting nodules of considerable size. The scalp is seldom implicated—even when all the other hairy regions of the body are invaded and rendered bald, the hair there continues plentiful. The hands and forearms are soon attacked, the arrangement being a symmetrical one, the tubercles attaining considerable thickness on the wrists, backs of the hands, and elbows. When numerous tubercles have developed on the face, deep wrinkles form between these, and the cast of features thus produced bears no inconsiderable resemblance to the face of a lion, hence the term leontiasis.

Further changes take place in the fully evolved tubercles. They may either still further increase in size, so as to produce enormous bossy growths, which may be complicated by œdema of the adjoining parts, or by an overgrowth of connective tissue. Or some may undergo spontaneous involution, becoming soft, pale, wrinkled, and disappear, leaving a pigmentary stain of which the periphery is darker than the centre. A third may

inflame and suppurate, burst, and thus be got rid of partially or entirely. Or lastly the nodules ulcerate more or less deeply, even eating down to the tendons or bones, and causing the disfigurements met with in lepra mutilans. As a result of one or other of these terminations, the skin may become tightly bound down over the facial bones, acquiring at the same time a leaden-bluish hue, imparting a peculiarly ghastly aspect, or the nasal bones and cartilages are destroyed, and a condition not unlike that which arises occasionally from tertiary syphilis is seen. The cornea is specially apt to have tubercles form on it, sight is usually lost, while the optic nerve may be affected secondarily. Throughout the course of the disease, febrile accessions are common, due in some cases to the eruption of fresh nodules, or the resolution and absorption of others, or to the invasion of phthisis, to which eventually many sufferers from leprosy fall a prey. Another mode of termination is by the gradual wasting or marasmus occasioned by the constant though intermitting progress of the disease. In less frequent cases the complaint advances with great rapidity, ending fatally even in a few months.

In the tropho-neurotic variety after the occurrence of the prodromal symptoms already alluded to, the eruptive period, of a duration which varies in individual cases, succeeds. This is in some instances bullous in character, resembling in fact pemphigus vulgaris very closely. The blebs are usually tense and transparent, but become in course of some hours milky, then purulent. They leave a reddish macule or a faintly pigmented or more rarely a leucodermic spot. Sometimes the bulla does not rise, but a parchment-like eschar forms, and this, as also the tense bulla, may be replaced by a soft, pearly white cicatrix, encircled by a narrow brown ring. The eruption of pemphigus may be repeated for many months.

Macules much like those which usher in the tubercular variety, are, however, the commonest of the early symptoms. Such may be at first erythematous or hyperæmic, at a later stage

pigmented or leucodermic, or they may be pigmentary from the outset to which may or may not succeed atrophy of the skin. The margins extend while the centres become pale and atrophic. The central pale or decolorised portion is always anæsthetic, the pigmented part is so also in many cases; sometimes, however, the periphery is normally sensitive or even hyperæsthetic. This anæsthesia may occur on portions of the body where no visible alteration can be made out, and thus cases occur in which it is the first symptom to attract notice. Lepers affected with this form have been severely burned without being conscious that a heated object was touching the skin.

Little by little the nervous system becomes more deeply implicated. Leloir has called this the leprous neuritis, and describes two stages. 1. A period of invasion which corresponds clinically to the cutaneous eruptions, to the phenomena of hyperæsthesia, which is accompanied by severe neuralgic pains, paroxysmal in type, affecting the sciatic in particular, and sometimes only relieved by amputation. At this time it is often possible to make out a very considerable thickening of certain nerve trunks. 2. A period in which the disease is established, and which is characterised anatomically by the complete degeneration of nerve structure, and clinically by the anæsthesia, paralysis, atrophies, and various trophic disturbances. Simultaneously with the anæsthesia muscular atrophy occurs. This is especially manifest on the thenar and hypothenar eminences, as affecting the interossei, the extensors and flexors of the forearm, causing contraction and deformities of the fingers and hand. In the lower limb it is the muscles of the foot and leg which are chiefly attacked. Occasionally the muscles of the trunk and face suffer. A gradual digital osseous wasting takes place, this begins in the distal phalanges, which become thinner and thinner till they disappear. Then the second phalanges are affected, and undergo a similar destructive change. Sometimes the pulp of the finger remains with the nail attached on the shortened digit; at other times the finger looks as if amputation had been skil-

fully performed, and a well-shaped stump results. The tendon reflexes are abolished when the anæsthesia is developed. The skin of the anæsthetic parts becomes shrunken, wrinkled, and old-looking. Various forms of ulceration are met with in this variety of leprosy as well as in the tubercular, though atrophy is the most marked feature. Thus a peculiar perforating ulcer of the foot not unfrequently is seen, reminding one forcibly of that encountered in locomotor ataxy, and the resemblance is heightened when we recall the lightning pains of tabes which have their analogue in the severe neuralgia already referred to. The duration of the tropho-neurotic form is perhaps more protracted than that of the tubercular, but either owing to some complication or from a gradual invasion of the whole body by the changes thus shortly described, the sufferer ends his miserable existence. It is hard to say which form is the more terrible in its fully pronounced condition.

We have seen that while the tubercular type shows the virus expending its energy primarily and principally on the skin, the tropho-neurotic, on the contrary, exhibits itself acting with greatest violence on the nervous system. But it may attack both systems at once or consecutively ; in this latter or mixed form, the tubercular usually precedes the anæsthetic in point of time, but this order of precedence is occasionally reversed.

Leprosy has been defined as a parasitic disease, and one fact is now firmly established, "that in all forms, and quite apart from the country in which it has been acquired, we find in the affected organs numerous characteristic bacilli, which were first described by Armauer Hansen, and Neisser." They resemble the tubercle bacilli, yet present appearances which enable them to be quite certainly distinguished from these. All attempts at cultivation have so far proved futile. "Yet we must look on these organisms as undoubtedly the cause of the disease, because they occur constantly and exclusively in this affection, and because also they are present in enormous numbers, and practically form the greater part of the affected tissue in the

leprous organs."[1] It is the opinion of Dr. Kaurin, of Molde, and of Dr. Beaven Rake that there is possibly some intermediate stage through which the bacillus passes, or some undiscovered host in whom it undergoes a further development, ere it can reproduce the disease, which has so far eluded our observation.

While then the micro-organism plays a part in the evolution of leprosy, the precise cause of the disease and its mode of extension are still obscure and await solution. There is certainly no proof that it ever arises *de novo*; human intercourse seems in some way to be necessary for its propagation. While some are of opinion that it is hereditary, others deny this, and hold that it is communicable in some manner. Mr. Hutchinson believes that "fish is probably the vehicle by which the poison of leprosy gains access to the human body."[2] The influence of heredity will not explain all the facts. There are many well-authenticated cases where persons previously free from taint have acquired leprosy after residence in countries where it is found.

The age at which leprosy appears is not in favour of heredity, since it is quite exceptional to see it develop during the first years of life. It shows itself in general towards the age of ten and from that onwards to twenty-five. It is excessively rare before the age of three to five years, while it has been known to commence even at seventy-one. In the case of children their mode of life is essentially the same as that of their parents, yet though they are necessarily in more or less intimate and prolonged contact with them, not all the offspring in every case suffer, even in instances where both parents are affected. On the supposition that leprosy is communicable it is more than likely that, as in syphilis, it is not communicable at all stages. It is true that in Norway, so far, no nurse nor any medical man in attendance on lepers has ever yet contracted it.

One cannot make much of the non-success of experimental

[1] Flügge, "Micro-organisms," *New. Syd. Soc. Trans.*, 1890, p. 274.
[2] *Archives of Surgery*, vol. i. Appendix, p. 11, 1889.

inoculations on animals. Physicians have been reported to have inoculated themselves, their colleagues, and even some healthy individuals, introducing the leprous material in the form of portions of the nodules under the skin, but no one so treated has become a leper. Certain facts would seem to indicate that in leprous districts it may be communicated by vaccination.[1] To impart the disease two factors would appear necessary. One, prolonged or very intimate contact with a leper, as by sleeping in the same bed, wearing the clothes of an affected person, etc. The other probably more predisposing, a peculiar condition of the system, possibly induced by habitually partaking of a bad, or at least unsuitable dietary, or from residence in districts where leprosy is prevalent.

Syphilis is the disease which, in this country at least, most resembles leprosy, Plate XLIX. of the *New Sydenham Society's Atlas* illustrates an example of syphilis which bears no inconsiderable similarity to leprosy. But the leprous tubercle develops much more slowly, and is, frequently. at least, anæsthetic. The tropho-neurotic type is perhaps in its inception even more apt to be mistaken than the tubercular. Here, however, the presence of anæsthesia is the cardinal sign to be looked for. The history is subsidiary. Yet the precise diagnosis of leprosy, even in a country where it is prevalent, is not by any means so easy as would at first sight appear. An old woman in the Reknaes Hospital at Molde, Norway, was an instance. She had on the limbs and neck large brownish-red erythematous blotches, each irregularly rounded, and presenting considerable resemblance to a macular syphilide. In this case, Dr. Kaurin assured me, syphilis could be absolutely excluded. The condition had lasted a year. There was no anæsthesia, or if any, the merest trace in the centre of some of the patches. A small portion of skin removed from above the eyebrow, so frequently one of the earliest situations for leprosy to manifest itself, was found not to contain bacilli. The case was one on the precise nature of which even

[1] See a case reported by Prof. Gairdner, *Brit. Med. Journ.*, June 11, 1887.

such an experienced observer as Dr. Kaurin could not express himself with certainty.

Though there are always a few imported cases of leprosy in Britain, the disease shows no tendency to spread. Dr. Liveing has pointed out that leprosy is liable—at least in healthy climates—to long periods of comparative rest or subsidence, quite apart from any special treatment. From the observation of some cases at Molde, where good diet, baths, and generally well-directed hygiene had effected an improvement almost approaching to a cure, it would seem that were lepers attended to in the very early stages much might be done for them, but I have nothing to say from personal experience.

Illustrations of the more ordinary types of leprosy will be found in most of the Atlases, but its rarer manifestations are admirably shown in the exhaustive work of Leloir already referred to.

CHAPTER XXXIII.

EPITHELIOMA

Incidentally throughout this work the peculiar proliferative degeneration of epithelium known as cancer has been commented on; a more detailed and consecutive account of so important a structural change is, however, demanded, all the more as confusion has arisen from the multiplications of subdivisions which authors have formulated. It is true that locality exerts a modifying influence on the visible appearances, favours the advance of the disease either superficially or towards the deeper lying parts, and has an intimate relation with the manner in which the infection of the tissues occurs; yet all the variations in character are reducible within comparatively narrow limits, and the clinical features of all are sufficiently distinct to allow of an exact diagnosis in the large majority of cases.

While we find cancer confined to particular elements of the skin in special and typical instances, it presents the same tendency to induce change in other and neighbouring portions as we see exhibited in many other cutaneous disorders. In lichen, psoriasis, and lupus are to be found variations differing as widely from the type as can be met with in cancer. It may arise primarily in the skin from the epithelium normally present, or, in the opinion of some, secondarily from degenerative changes in the granulation tissues of such a disease as lupus, though here included in the lupus patch are the remains of glandular structures, so it is at least questionable if the cancerous neoplasm does not proceed

directly from these; and therefore that the form with which we are immediately concerned may be regarded as an epithelioma in all cases. This at once simplifies our conception of the morbid process. Wherever epithelial structures exist in the skin, in such may at any moment be the starting-point. Thus a wart, innocent enough in itself, yet histologically resembling epithelioma, may undergo this transmutation. The functional activity of a sebaceous or sweat gland being disturbed, a seborrhœa may originate a superficial, perverted action of the coil may initiate a deep, form of the disease. Hence the earliest commencement of the complaint is lost in obscurity, and ere it comes under the eye of the medical man, or attracts the notice of the patient himself, it has attained tangible dimensions.

And here it may be observed that it is solely with primary epithelioma of the skin that we are at present concerned; those secondary deposits in the integument, consecutive to a deep-seated cancer of a gland such as the mamma, must be left out of consideration. In the superficial form a warty growth is often the apparent origin; probably this, too, was epitheliomatous, though in a disguised shape, according to the idea of Cohnheim, that tumours originate from an irregularity of the embryonal germ. If on the face, it feels rough, is picked or abraded in washing, and bleeds a little. A minute scab adheres to the surface, and being frequently removed, is as constantly reproduced, while the growth slowly but steadily enlarges. As commonly seen it presents an appearance which Mr. Hutchinson has compared to that of a mother-of-pearl button, or of more than one set close together. The edge is pretty sharply defined, hard to the finger, reddish, pink, or yellowish, having a degree of dim translucency about it, often with one or two dilated venules running near or over it. Within this is a crust which adheres pretty firmly, but if torn away, a worm-eaten, red, granular, readily bleeding surface is exposed. The size varies with the rate of progress, that of a threepenny piece is a common

extent; if uninterfered with it may be much larger. Pinched between the fingers the growth communicates a sensation of hardness, yet is movable over the subcutaneous tissue, is evidently wholly in the skin. There may be only one such, sometimes there are several, but disposed without regard to symmetry. Pain is seldom spontaneously complained of, still on inquiry it is found that occasionally a little stinging has been felt in it, or it has itched at times. It extends slowly but surely, sometimes by encroaching on a wider area of skin, at others at the same time penetrating more and more deeply. In a very superficial form portions or the whole may cicatrise, seldom permanently, usually to break down again and again. In some instances there is a wide space coarsely granular in aspect, in others exuberant fungating masses sprout from the ulcerated base, or the papillæ participating in the morbid process, a warty surface is produced somewhat like worsted plush, and to this latter the term papillary cancer is applied. Only occasionally do we meet with pigmentary deposits in epithelioma of the skin; these are usually in outlying parts, and consist of a blackish staining of the neoplasm.

In the deep variety, from having a more extended foundation, the nodular deposit is larger before ulceration occurs, and then opens out into a crateriform cavity with hard edges. The progress may be slow, but is commonly much more rapid than in the superficial.

To the variety which attacks the upper half of the face above a line drawn from the angles of the mouth to the ears, the term rodent ulcer, or Jacob's ulcer, has been attached. Yet this form of epithelioma is not absolutely limited to the face. Two instances have come under my notice where it occurred on the back, near its centre and some four inches or so to one side of the vertebral column. The lip, usually the lower, is another situation where the nodular or papillary, the superficial or the deep, may indifferently locate themselves. Here the starting-point may be an old-standing fissure, though the rarity of cancer

of the lip in women, in whom such cracks—induced or kept up by biting thread in sewing—are common, rather militates against this view. It is well known that smoking tends to convert a white patch—leukoplakia—of the tongue into an epithelioma, and the hot stem of a short pipe is an efficient agent in originating a cancer of the lip. The upper lip seldom suffers, unless by extension from the lower. When starting from the region of the nipple, a wide tract of skin may be involved ere it penetrates deeply and endangers life. This constitutes Paget's disease of the nipple. The process in this instance probably begins as a catarrhal condition of the lactiferous ducts.

The following instances may illustrate the commencement, and demonstrate the eventual progress of this form :—

103. Mrs. J., aged forty-seven. For some months has noticed occasionally the discharge of a small quantity of a glairy fluid, now and again tinged with blood, from the right nipple. The nipple itches a little, but there is no hardness of the mamma, nor any adenitis. The continuous application of the zinc ichthyol jelly, combined with fomentations of very hot water, reduced the flow to a trifling amount.

104. Miss G., aged thirty-six. Has had a life of considerable anxiety and worry. Her skin is sallow and ill-nourished. There is a slight discharge from each nipple; but, besides this, the nipple itself and the areola are red and excoriated. The affected parts itch, heal over, to break down again and again. No treatment did any permanent good, and one specialist whom she consulted expressed a fear that the termination would be in cancer.

105. Mrs. M'L., seventy-two, wife of a farmer in a remote country district. More than twenty years before, when nursing a child, the nipple became sore, raw, and itchy. The surface never healed, but the disease spread till when seen the greater part of the right mamma and the whole of the axilla had become affected. This is red, granular looking, and secretes an offensive sero-pus. The margins are sharply defined

and elevated, and the disease, though superficial on the mamma, is penetrating more deeply in the axilla. The pain is not severe.

A remarkable feature in cancer of the skin, noticeable in all, but quite peculiar in one of its forms, is the rarity with which the lymphatic glands are secondarily involved, as compared with cancer elsewhere. Such implication of the glands, when it does take place, occurs most frequently in cancer of the lip, is nearly unknown in rodent ulcer. Mr. Hutchinson thinks that the immunity of the lymphatics in rodent ulcer is due to the especial elements in which it commences. If rodent ulcer spreads to the prolabium it does not change its nature, and the freedom from lymphatic infection remains as before; while in cancer originating in the prolabium, the glands are rapidly affected.[1] When removed by operation, recurrences may, according to Dr. Ohren,[2] be regional, continuous, or infectious. The first arise from a morbid disposition permeating the entire region; the second proceed from that tendency which all skin diseases exhibit, more or less, of implicating in succession adjoining districts; while the infectious originate from disposition of the morbid cell elements at a distance near or remote. The medium of conveyance in this latter case being the lymphatics or blood-vessels, the transplanted particles have the property of inducing a like proliferation in the corresponding elements of the part whither they have been conveyed.

Of all forms of cancer, that attacking the skin has the greatest right to be regarded as purely local in the first instance, and as longest continuing so. While no part of the integument may not be the seat of cancer, the face is by far the most frequent locality, and the male sex suffer in a far larger proportion than the female. Hereditary influence is discoverable in a certain proportion of cases in all forms of cancer, but age has a

[1] *Archives of Surgery*, vol. i. p. 211.
[2] *Archiv für klinische Chirurgie*, June 1888.

more marked effect. Epithelioma of the skin is rare before forty, after then its frequency increases, though in the highest ages not in the same ratio. Local irritation takes a prominent part in hastening its progress, possibly, in those predisposed, in determining its development. Frequently repeated irritation, as picking or scratching, seems to have a more injurious tendency in this direction than a single act of violence, thus manifesting the converse of what happens in cancer of the mamma.

Cancer must be regarded as evidence of the senility of the tissues. This senility may be brought about in various ways. It may be occasioned by the artificial prolongation beyond its normal limit of the life of an organism or of a tissue by special protection. Civilisation enables the weakly to survive, the unhealthy to contend successfully, at least for a time, against their ailments. Cancer is but one of the modes in which this preserved organism eventually succumbs. But senility may also express the state into which an organ passes when its period of functional activity is in process of decline, as happens in the case of the uterus. "In like manner moles and other forms of congenital excess, as well as certain innocent varieties of new growth not congenital, are, as is well known, liable to be attacked by cancer. It may be that these growths run through their life more rapidly than normal structures, and thus, on the score of senility, become liable to cancer at an earlier period than the rest."[1] The tendency which long-continued courses of arsenic—as Mr. Hutchinson[2] has remarked—have to produce cancer can be explained in the same way. As has been shown under psoriasis, arsenic has the effect of stimulating the deepest and formative cells of the rete to exhaustion, to induce in them premature old age, and, in subjects predisposed to cancer, may act as an exciting or determining cause. A like influence is, in the opinion of Kaposi, at the root of the epitheliomatous formations in xeroderma pigmentosum.

[1] *British Medical Journal*, March 24, 1883.
[2] *Ibid.*, December 10, 1887, p. 1280.

If this view be adopted, while it is easy to understand auto-infection of the tissues taking place at near or more remote parts, the opinion which has been expressed by Mr. Wynter Blyth[1] among others, that cancer is contagious, seems hardly tenable. Nor is there any more reason to believe in the existence of a special cancer microbe, attempts to isolate which have been recently made. The conclusions arrived at with respect to this point by Louis Wickham[2] on the one hand, and by William Russell[3] on the other are conflicting.

Under the involuntary but ever-watchful control of the nervous system, cell-growth and cell-decay and regeneration are balanced with an exactitude which but imperceptibly lessens under normal conditions. But in cancer "a certain group of cell elements succeeds in freeing itself from the central control of the organism, and develops itself upon a plan which is really retrograde, and which produces structures which are not only in themselves useless, but which possess the power of infecting their neighbours." This affords the key to the pathology of epithelioma. Mr. Paul[4] has furnished convincing evidence that rodent ulcer at least—and this is the form of epithelioma about the exact origin of which there has been the greatest amount of discussion—commences not in any particular dermal appendage, but in the skin as a whole, though it is possible that the part of the skin in which it arises in any special case may to some extent influence its future. There is an overgrowth of the epithelial cells, and this may assume the acinous or the tubular formation, the latter being the simpler, the former the more complex, and it may be added the commoner variety. These epithelial processes invade the connective tissue, and, according to Thin,[5] act as a poison upon its structure.

The morbid anatomy of epithelioma varies under different

[1] *British Medical Journal*, January 7, 1888, p. 23.
[2] *Maladie de la peau dité maladie de Paget*, Paris, 1890.
[3] *British Medical Journal*, December 13, 1890.
[4] *Ibid.*, May 2, 1885.
[5] *Cancerous Affections of the Skin*, 1886, p. 32.

circumstances, but it essentially consists in the presence of epithelial structures in situations where they are not encountered in healthy conditions of the tissues involved. In thin microscopic sections there is a source of fallacy hitherto unnoticed. In the acinous variety the bud-like processes extend in all directions, and in the slice submitted to the microscope, a portion of one of these is seen cut off and included after an apparently isolated fashion within the connective tissue. Its continuity with the main stem of invading epithelium can only be satisfactorily studied in a series of consecutive sections. Cell nests are found in some specimens, but are not pathognomonic. The size of the individual epithelial elements also varies; is perhaps smallest in so-called rodent ulcer.

The diagnosis is mainly from late specific manifestations, occasionally from lupus. In syphilis the lesions are much oftener multiple than in epithelioma, the resulting ulcers are horse-shoe shaped, their floor covered with a sanious pus, and the margins more sharply cut. The course, too, is more rapid, and the mode of commencement somewhat different. Careful investigation for the brownish-red primary nodules which characterise lupus, aided by the history of a beginning in early life in most cases, will enable lupus to be excluded. Further details on this point are given under the syphilitic gumma.

The treatment of epithelioma of the skin is simple, provided the growth is small. Excision, including a margin of sound skin all round, and carried so deep as to enucleate thoroughly the entire nodule or nodules on ordinary surgical principles, is all that is needed. But when it has spread, or has attacked parts, as the nose, to such an extent as to render removal by the knife either difficult or unsuitable, what is to be done? We have seen that salicylic, lactic, and arsenious acids have an elective action on the lupus neoplasm; the two former have by no means the same power over epithelioma, the latter is that chiefly used by cancer-curing quacks, and has even obtained some popularity in the ranks of the profession. Chromic acid

is, however, in my experience much preferable, and can be successfully employed in combination with erasion. Scraping alone is decidedly unsatisfactory ; however thoroughly done, it is nearly certain to be followed in no long time by recurrences, but as a preliminary to the application of chromic acid, is of great value. The cancerous tissue is first scraped as completely and carefully as possible, then painted with five per cent cocaïne solution, or, should the surface be ulcerated extensively, this can be done at first. Pure chromic acid is then fused on the end of a probe by aid of a spirit lamp, and the bead so formed bored into and passed over the raw surface left behind by the curette. Some pain is felt after the anæsthetic influence of the cocaïne has subsided. The slough so formed is allowed to separate and the part to heal under the zinc ichthyol salve muslin used as a dressing, and changed daily till cicatrisation is complete; or powdered aristol may be dusted on till the same result follows. The scar must now be inspected minutely, and the procedure repeated in the case of any portions which have escaped destruction. Chromic acid would operate more uniformly did the epithelioma advance more equally, but the new growth dips into the sound tissues irregularly, hence it is difficult to pursue it into all its ramifications.

106. T. N., seventy-eight. Had smallpox twenty years ago, and on his recovery a small ulcer formed on his nose, which has steadily though very slowly spread. There is a patch of epithelioma of the rodent ulcer type about the size of a shilling on the right side of the ala of the nose, including the margin. This was treated with fused chromic acid in the manner described. Seven weeks later he came back to the Royal Infirmary with the whole soundly healed, no evidence of disease. The cicatrix was firm, as being bound down to the cartilage. Three months afterwards he wrote me that it remained well, and he promised to come back if there were any symptoms of a recurrence.

107. A. S., fifty-one, a wiry man, who does not look his age,

and denies ever having had syphilis. Five years since a bluish mark appeared on the left side of his under lip, beneath the red part, over which it gradually crept, and after being covered with a scab, which readily fell off, a species of dermatitis spread over two-thirds of the surface. This part, which includes not only the red portion of the lip, but has crept down on to the skin beneath, is red, glazed, raw, not granulating, and secreting a serous gummy fluid. There is a crescentic nodular ridge limiting this on the left lower margin. The surface is extremely tender, but is not spontaneously painful. It has been treated by various surgeons without success. On June 1st, 1888, the treatment by cauterisation with fused chromic acid was commenced, the surface being dressed continuously with the zinc ichthyol salve muslin. He carried out the method himself, only occasionally reporting progress. In the end of November the entire lip was healed over, the swollen condition gone, and nothing save a degree of tenderness remaining, necessitating caution as to exposure.

108. W. F., sixty-six, came to the Royal Infirmary on May 26th, 1888. Eleven years before a nodule appeared on the right temple, and since then the disease has gradually advanced, till now a space four inches long by nearly two deep, including all the temple and some of the forehead, is raw, granular, partially cicatrised imperfectly, and presenting, in short, the usual characters of superficial epithelioma. The treatment by scraping and chromic acid has been steadily carried out, the acid having been applied four times in all to smaller and smaller areas, so that at the end of November there were only three spots in which the disease did not seem eradicated.

CHAPTER XXXIV.

THE PARASITES OF THE SKIN.

Animal as well as vegetable parasites make their abode on and in the skin of man, sometimes as mere temporary occupants, at others until forcibly dislodged; and so securely do they sometimes establish themselves, that it is only slowly and with difficulty they can be displaced. This latter statement applies, however, chiefly to the vegetable parasites, as seen in this country. There are some animal ones in tropical climates which might be characterised in almost as strong terms.

The vegetable parasites comprise those forms of low organic life which may be said to be normal tenants, which merely live and thrive in the epidermis—the crypts and appendages of the skin—without causing any evil effects; and those others whose presence is usually associated with well-marked morbid conditions. Since there is much effete organic material on the surface of the human body, in the shape of flakes of epidermis in process of being cast off, and the glandular secretions which have to some extent accumulated there, there is little cause for astonishment that this material, under favourable conditions of temperature and moisture, should afford a congenial soil for the development of fungi. One of the best accounts of those microphytes which are present under ordinary circumstances in the epidermis has been given by Bizzozero.[1] The forms assumed vary apparently as the parts are dry, like the scales found on

1 "Ueber die Mikrophyten der normalen Oberhaut des Menschen:" Virchow's *Archiv*, December 1884.

the scalp, or moist, as in the accumulated masses of epidermis between the toes, or in the warm and humid situation of the fold of the groin. Thus in the dry masses of scales seen in ordinary dandruff, round and oval spores are abundant, as well as numerous micrococci. The spores tend to throw out buds, but not as a rule to form chains or mycelium. Between the toes and in the fork, on the contrary, thread-like formations, which may assume tuft-like arrangements, occur, as well as heaps of spores. The fungi found in the dry masses are allied to the saccharomycetes, while those seen in the moister situations resemble leptothrix. Malassez thought that pityriasis simplex, the scurf found in the scalp, and sometimes in the beard and eyebrows, was due to the growth of these fungi; but Bizzozero has disproved this, inasmuch as he found the same organisms in healthy persons, though of course not in the same abundance as when a more ample pabulum was afforded by the accumulated scales. In the same way attention has of late been drawn to a disease described in the first instance by v. Barensprung, and called erythrasma. This was said to consist of an intertrigo affecting the crural fold—fairly common, though giving rise to little if any subjective sensations, and in character somewhat resembling eczema marginatum. In this a fungus was discovered called the *Microsporon minutissimum*, because it arranged itself much after the fashion of *Microsporon furfur*. Bizzozero pretty clearly proves that this also is a secondary occurrence, and is a parasite allied to leptothrix, common enough in that locality, but more luxuriant, when more or less intertrigo arises from ordinary causes. In typical examples it is not, however, a mere intertrigo, though this condition may be superadded. There is seen a reddish-brown patch, which desquamates a very little, presents a general resemblance to tinea versicolor, though rather darker than most specimens of the latter, and itches slightly. The patch occurs on the left side of the scrotum and the corresponding inner side of the thigh in the majority of instances, but scarcely extends further than

where these parts are in contact. The margin may be a degree more intense in hue than the included area, but there is not the distinct linear edge of eczema marginatum. Dr. Payne[1] describes the parasite as a series of jointed threads, the segments being of very unequal length, interlacing, variable in thickness, and situated between the epidermic scales. It resembles the involution form of Proteus mirabilis. To demonstrate it properly careful staining is necessary, and a power of 700 diameters. The constant occurrence of micro-organisms in the epidermis may now be accepted ; but these are usually innocuous, and, for all that we know at present, there are only three which cause actual disease. Fortunately these exhibit features so definite that they can scarcely be confused with their harmless associates. Sir Erasmus Wilson was probably the last to hold out against the accepted idea that the fungi were really the cause of the morbid appearances seen in association with them.

Morbid conditions due to the Trichophyton tonsurans.—The fungus consists of spores, usually round, though, according to some authors, also occasionally oval, and branching hollow tubes, the mycelium. The spores are most abundant in hairs from ringworm of the head in children, so much so as to obscure the mycelial threads which only come into view after the diseased hair has been soaked for some time in a pretty strong solution of caustic potash. They are also numerous in hairs from ringworm of the beard in man, though in the latter case, probably because the hairs are large, more spongy, and succulent, we find also well-grown mycelium.

On the contrary, the mycelium is in excess in body ringworm, the epidermic scales admitting of more space, while the vascular corium and juicy rete beneath furnish warmth and moisture.

Culture of the *Trichophyton* has so far failed to determine the botanical position of the fungus. Thus, Atkinson[2] regards it as a mucor, and allied to the *Mucor mucedo*, while Malcolm

[1] *Observations on Rare Diseases of the Skin*, 1889.
[2] *New York Medical Journal*, December 1878.

Morris[1] considers it in many respects identical with *Penicillium*. Thin,[2] again, believes, from a series of carefully executed cultivations, that it is distinct and independent, and not related to any of the ordinary fungi. When *Penicillium* and the *Trichophyton* are cultivated together, the former grows with much greater rapidity than the latter; and while *Penicillium* can be grown up to the stage in which the characteristic organs of fructification are fully developed, the *Trichophyton* mycelium grows slowly and steadily, with no certain evidence either of spore formation or of organs of fructification. There is apparently no doubt that it is quite a distinct variety from that which occasions favus or tinea versicolor.

When this parasite has been implanted, the appearances produced by its multiplication may be described under three heads:—

(1) When the hairy scalp in children, or very rarely in adults, is the part attacked; or

(2) When other regions provided with strong and deeply set hairs, as the beard or axilla, are affected; or

(3) If parts of the general surface on which merely fine lanugo hairs grow are attacked.

(1) *Ringworm of the scalp in children* is confessedly so obstinate a disease in the majority of cases that it claims our attention first of all. Here the complaint varies to some extent, according as the case is seen early, or has been permitted to progress with little or no treatment, or has lasted long. What usually first attracts the attendant's notice is the existence of one or more circular patches on the top of a child's head, from half an inch to several inches in diameter, and covered with fine white mealy scales. The hairs which grow on these parts are withered and dry, and most of them are broken irregularly, or as if nibbled off at about a line and a half from their point of exit from the scalp. The general colour of the patch is bluish

[1] *Journal of the Royal Microscopical Society*, 1883.
[2] *Proceedings of the Royal Society*, 1881 and 1885.

or slate-coloured in persons with dark hair; in fair children it is more reddish-grey or yellowish. In any case it contrasts strongly against the neighbouring unaffected parts. The parts are itchy, and from scratching, or as a result of irritation from the fingers, the skin under the scales may be slightly reddened. Yet the amount of local irritation evidenced by inflammatory symptoms is slight. Very seldom do vesicles form.

When the disease has lasted some time the well-defined contour of the patches becomes gradually lost. The fungus penetrates to other regions of the scalp, while some of the hairs on the previously diseased parts attain a longer growth, though still weak and lustreless. One constant feature remains, however, the rough, dry, powdery scales, and it does not in general require much or close examination to discover many of the broken-off hairs protruding from the dry surface. To this phase of the complaint the term "disseminated ringworm" has been applied by Dr. Alder Smith. It is one which is very apt to be mistaken for a dry eczema left behind after the cure of the disease, but so long as this scaliness persists it affords presumptive evidence that the ringworm continues.

Even when to all appearance the scalp is healthy and the hair growing luxuriantly, a diseased stump may, by careful searching, be discovered here and there,—a latent source of infection to others.

To a rather uncommon development of ringworm the term *kerion* has been attached. The same condition is much more frequently encountered in ringworm of the beard. In a well-marked case the skin rises up like a watch-glass from the sound scalp beyond. When this is felt, the finger perceives a lax substratum, a peculiar bogginess, as if there was a diffuse subcutaneous abscess, but if incised no pus exudes. The surface is red, tender, humid, and smooth, studded with openings, which are the inflamed and dilated follicles. A mucoid discharge escapes from these. Some of the apertures contain

loose and broken hairs, some are empty and gaping. The part is tender and angry-looking. It is rare in adults, and the following instance is therefore interesting. A delicate looking woman, aged twenty-eight, had some three weeks previous to visiting me, been in a house where there were children affected with ringworm. Soon after she discovered a red spot on the back of the head among the hair, near the nape of the neck. This had become a typical patch of kerion when seen on the 16th January 1890. The mycelium of the trichophyton was abundant in the root-sheath of several hairs examined. The cause of this condition is sometimes the application of irritating and unsuitable remedies, but in most instances the *Trichophyton* itself is the mischief-maker. The child is lymphatic or weakly, or its hygiene is bad. Occasionally no good reason can be assigned for the occurrence of kerion. It is doubtful if it ever arises from eczema or any other disease than ringworm.[1] The acute inflammation serves to destroy the fungus, which is rather difficult to find in the loosened hairs, though if the root-sheath can be extracted with the hair it may be discovered in it.

When the swelling in kerion has subsided the part is left red, smooth, and hairless, and a considerable period may elapse ere the hair is restored. Indeed, we sometimes meet with smooth, round, bald patches, the size of a sixpence, on the heads of adults, which are the final results of kerion, or of a ringworm in which actual pustulation has been induced. The latter occurs almost exclusively in strumous children.

Children under the age of ten are more liable to take ringworm than when older, there being in this respect a curious parallelism between ringworm and whooping-cough. They seldom acquire it after thirteen, though it may, if existent then, continue even till fifteen or sixteen. It is rarely met with on the scalp of adults; yet I have seen two instances. In one a nursemaid, in attendance on two children who were suffering

[1] Atkinson, "Kerion celsi," *Archives of Dermatology*, January 1881.

from it, had a small patch on the head, which soon yielded to treatment. The other case is more curious.

109. Mrs. ——, aged thirty-eight, had had eleven children in fourteen years, and, though active and stout, was anæmic. For ten years ringworm had not been absent from the nursery. Each child as it passed babyhood, during which time ringworm is rare on the head, became infected, and thus, as the disease died out at one end of the scale, it received fresh accessions at the other. She had noticed of late that her head was scurfy and the scalp itchy, while the hair had become thin on the crown. On examination, the vertex was found thickly covered with dark ashy grey scales, which were tolerably adherent. The hairs were also broken short off in parts, and both these hairs and the scales contained abundance of spores of the *Trichophyton*, but no mycelium. I recommended shaving, blistering, the employment of a vaseline sulphur ointment, and the administration of iron. Only the ointment was used and the iron taken; when seen nine months after, the scales were still numerous, but those examined contained no spores. A lotion of liquor carbonis detergens and liquor plumbi subacetatis was prescribed, and when heard of some time later the scaliness was less.

Thin explains the immunity of adults to the firmer texture of the root-sheaths in them, and the comparative absence of moisture between the inner root-sheaths and the hair, and there is reason to believe that this is correct, though it is not quite certain if he is equally right in believing that the parasite is found only among the cells which have undergone the horny change, and that it is not met with among the living cells of the epidermis.[1] Robinson[2] has found the spores in the rete, the corium, and even in the subcutaneous tissue. "The deep seat of the fungus in some cases is probably the cause of the occasional obstinacy of the disease and difficulty of cure."[3] It is especially in anæmic, fair, and

[1] *Pathology and Treatment of Ringworm*, 1887, p. 19.
[2] *New York Medical Journal*, March 1881.
[3] *Pathology and Treatment of Ringworm*, 1887, p. 19.

lymphatic children that ringworm of the head is obstinate, and it is just in such children that the tissues are peculiarly soft and permeable, and that the fungus would most readily penetrate deeply. It is in such children, too, that it sets up most decided irritation.

It is often quite impossible to ascertain how the disease has arisen in individual cases, but there are certain frequent modes of communication. One of these is the hairdresser's. Children are often taken to have their hair cut who are not known to have ringworm, and the comb, the scissors, and the brush may each and all be the medium of conveying spores. The custom of putting on one another's hats and caps at school is another mode; and quite independent of this, Dr. Fox[1] showed that spores apparently dislodged in scratching float in the air of the school, and were found on slides coated with glycerine placed for some hours there. As, however, no inoculations were made with or cultivations from these, it is doubtful whether they were really the spores of the *Trichophyton*, and not, as Thin suggests, "the ordinary spores that are always being deposited from the atmosphere of rooms, probably those of *Penicillium glaucum*."

Yet all children so exposed do not contract the disease; a congenial soil is necessary, and this is not present in every one, nor in the same child at all times.

Since ringworm of the scalp is so rare in adults, it follows that the disease must tend spontaneously to die out, for as there are many cases never treated at all, and many are or can be but inefficiently, unless the disease came to an end of its own accord we would meet with it in adults quite commonly. In all likelihood the soil becomes uncongenial, and the parasite dies, probably from the increased density and diminished succulence of the scalp, as life advances.

Though rare, it is *possible* for a child to contract the disease a second time.[2] Most of such examples of reinfection are probably, however, fresh outbreaks of imperfectly cured cases.

[1] *Skin Diseases*, 1873, p. 443.

[2] Alder Smith, *Ringworm; its Diagnosis and Treatment*, 1885, p. 47.

Ringworm of the head in children seems most rife in Britain. According to Thin, in the commoner schools of London it has become "a great evil, with which it seems hardly possible to cope." It appears to be tolerably frequent in Paris, while it is undoubtedly rare in Germany and Austria. Liveing[1] states that the most reasonable explanation of its prevalence in Great Britain is "that a humid climate with a mild winter is favourable to its development." While this may partially explain it, there may be something in racial peculiarity which predisposes, as we have seen is probable in psoriasis.

The diagnosis of ringworm of the head is only difficult in its disseminate form; scarcely any one can fail to recognise the circular scaly patch with its nibbled hairs in the early stage. Diffuse chronic ringworm may be mistaken for a scaly eczema, and all the more so, because after the cure of tinea tonsurans such an eczema may supervene. In such a case the hair still grows poorly, is dull and lustreless, and there are numerous fine white scales; but there are no stumps or broken hairs, and the microscope reveals no spores or mycelium. There is, however, a simple method of determining the presence or not of ringworm, and that is by the chloroform test originally suggested by Duckworth,[2] but which had escaped notice till again brought more fully before the profession by Behrend.[3]

When a hair from a case of tinea tonsurans of the head in a child is placed on a glass slide, and a few drops of chloroform added so as to float it, on the evaporation of the chloroform the hair, if still containing spores, or if its fibrous structure has been broken up by the action of the parasite, becomes of a chalky white. A hair from a case of dry chronic eczema, or one affected with favus, presents, when similarly treated, no such appearance, nor indeed is there any other morbid condition of the hair with which I am acquainted in which such an alteration

[1] *Handbook of Skin Diseases*, 1887, p. 390.
[2] *St. Bartholomew's Hospital Reports*, 1873.
[3] *Trans. International Med. Congress*, 1884.

takes place from the action of chloroform. When the hair is fair the white appearance is less distinct than when dark or reddish.

The same test is useful in cases of ringworm which are nearly cured. When chloroform is dropped on the scalp, and this is examined after its evaporation, the epidermis becomes white, but in addition the hairs still diseased can be seen with a lens to have become white also, while the healthy ones retain their natural colour. This enables us readily to isolate and extract any stumps, and to confirm the test by the microscope. For this purpose the hairs, after soaking for a few minutes in liquor potassæ, must be viewed with a power of from 250 to 300 diameters. The fibrous structure of the hair will then be seen to be split up, and its whole thickness filled with rows of spores. The free end presents a ragged, frayed extremity.

As a rule, till all the hairs grow each in its proper line, determined for it by its position in the whorl on the scalp, and do not lie crosswise, or irregularly, the disease is not cured.

When a case of ringworm of the scalp is brought for treatment, the first thing to be done is to have all the hair removed. The most satisfactory plan is to have the head shaved each week; or the hair may be kept constantly closely clipped with a pair of sharp elbow-curved surgical dressing scissors. It should then be thoroughly washed with an over-fatty potash soap,[1] and warm water. This cleanses the scalp without making it dry and apt to fissure, as ordinary soft soap does. When the scales have been so got rid of, it is common to find a number of minute foci of disease previously concealed by the long hair. These are shown as dry spots scattered through the otherwise smooth and shining scalp.

If the disease has lasted but a few days, an attempt may be made to stamp it out, by painting each patch with pure liquid carbolic acid. This must not be resorted to in the case of chil-

[1] Either Unna's, made by Douglas, Eimsbüttel, Hamburg; or an equally good one manufactured by Messrs. Duncan and Flockhart, Edinburgh.

dren under the age of six years, nor if there are more than one or two comparatively small patches. It is somewhat painful, but the pain does not continue long.

When the dry flake formed by the action of the acid has separated, some parasiticide application should be used for a time, the carbolic acid rarely eradicates the disease.

110. R. F., aged seven. His mother noticed a small red spot on the forehead a few days since, but it was only the night before I saw him that any patches were seen on his head. One patch on the scalp was the size of a threepenny piece. It bore a few small yellowish crusts, and the hairs were broken off short; there were also two or three smaller ones which were merely red and slightly scaly. He had fair hair, and was in good health. The hair was cut short, the patches painted with carbolic acid, and carbolic glycerine was applied freely daily. It was noticed a fortnight after that the spots had not enlarged, indeed the largest was only half its former size, and the hairs all round its margin were now healthy, some in the centre were still diseased. An ointment of sulphur, ammoniated mercury, and thymol was now applied twice a day, and all trace of the disease was gone in three weeks' time.

This must be regarded as an exceptionally good result, since we seldom succeed in curing a case of ringworm under two months; far oftener a much longer time is spent over it. The difficulty consists in our failure to cause the remedy to penetrate deeply enough.

Acetic acid is another remedy which is sometimes useful in cases suited for the treatment by carbolic acid. One part of glacial and two of acetic acid are mixed and painted on. It can be applied every day for a few days, then intermitted if its action seem too severe, and another milder remedy substituted for a time.

When the disease has got a hold, and when there are many patches, as in disseminate ringworm, no severe measures are to be employed. Our aim must be to bring some parasiticide into

as close contact as possible with the fungus, and thus to starve it out by constant and frequently repeated applications. While these remedies are used until the disease can be pronounced cured, the hair must be kept as short as scissors can cut it, or the head shaved once a week. It should also be washed daily with soap and warm water, so as to allow fresh relays of the remedy access.

The number of remedies recommended for the cure of ringworm is very large, and no criticism of such will be here attempted. A very full and exhaustive one will be found in Dr. Thin's recently published work, the best contribution yet made to the study of this disease. Most of those enumerated by Dr. Thin have been carefully tested by myself, and in his conclusions I concur almost without exception. The formulæ and directions which follow represent the results of much careful investigation.

Three methods of treatment are available—(*a.*) Ointments: (*b.*) Ethereal and spirit lotions: (*c.*) By chemical decomposition *in situ.*

(*a.*) *Ointments.*—Neither oleic acid nor lanoline have proved better as excipients for these than lard or simple ointment. It is not mere penetration of the horny layer which we desire, but into the follicle itself. We must use an ointment which can be used safely, without causing undue irritation; and after many trials I find the following one the most generally reliable. In preparing, the thymol should be dissolved in the vaseline by aid of heat.

℞	Sulphuris præcipit. . . .	ʒi.
	Hydrarg. ammoniat. . . .	ʒss.
	Thymolis	grs. x.
	Vaselini	ʒi.
	Ung. simplicis, ad . . .	℥i.
		—— M.

This ointment in small quantity should be well worked into

each spot with a short stiff brush twice a day. The strength can be increased, if desired, to ʒiss. of the sulphur and 40 grains of the ammoniated mercury in each ounce, and it is sometimes an advantage to replace the thymol by 15 minims of Pix liquida.

Another most useful formula is one slightly modified from a prescription of the late Mr. Startin's:—

℞ Sulphuris præcipitati . . .	ʒss.
Hydrargyri ammoniati . .	grs. xv.
Hydrargyri sulphureti nigri .	grs. x.
Misce, adde	
Olei sesami	ʒii.
Creasoti	♏ x.
Adipis	℥vj.

M. fiat unguentum.

This seldom occasions any undue irritation, yet in the case of three children of one family it produced a pustular eruption, but at the same time a rapid and complete cure. It is to be well rubbed in, like the one previously mentioned, twice a day, the head having been previously well washed with warm water and the over-fatty potash soap. No other kind of soap gives anything like the same satisfactory results.

(*b.*) *Ethereal and Spirit Lotion.*—Dr. Cavafy has formulated a lotion[1] which proceeds on the assumption advanced by Mr. Malcolm Morris,[2] that the removal of the fatty matters from the scalp will imitate nature by causing an artificial dryness of the skin. This will occasion, in their opinion, the death of the fungus, while at the same time the dry hairs will fall out spontaneously. The lotion consists of—

℞ Acid boracic	ʒi.
Ætheris sulphurici methylati . .	℥i.
Sp. vini rect.	℥iv.

——M.

[1] *British Medical Journal*, June 24, 1882. [2] *Ibid.*, June 17, 1882.

This is to be well rubbed in with a sponge twice or three times a day. From the evaporation of the ether and spirit, the boracic acid is left deposited as a white powder. In order to bring the parasiticide into constant and intimate relationship with the diseased parts, the scalp must be washed daily with soap and warm water; this removes the deposit of boracic acid, the scales, and loosened hairs. Whenever the head has been dried the lotion is to be reapplied. Since boracic acid is but a feeble parasiticide, there is perhaps another explanation of the efficacy of this lotion—namely, its hardening effect on the skin, thus rendering the soil unsuitable for the continued existence of the parasite. It is at all events a cleanly, painless, and sometimes a successful mode of treatment, and can be made use of as an alternative method.

(*c.*) *By Chemical Decomposition* in situ.—This is an attempt to bring nascent sulphurous acid into intimate contact with the diseased hairs. The head is washed with soft soap twice daily, then dried. Dilute acetic acid is sponged on all over the head, and while the head is still wet the following lotion is freely sopped on:—

℞ Sodæ hyposulphitis . . . ʒvi.
Glycerini . . . . . ʒiss.
Aquam, ad . . . . . ʒvi.
——M.

While this mode of treatment is useful as an alternative in some cases, it is by no means so universally applicable or so reliable as the method of treatment by ointments.

I cannot agree with Dr. Thin[1] and M. Besnier that such remedies and other similar ones act merely "by producing an eliminatory irritation," or "that the principle of managing the disease consists in procuring in the hair follicles an inflammation sufficiently acute to gradually lead to the destruction of the fungus." Repeated blistering fails to cure the disease, while

[1] *Pathology and Treatment of Ringworm*, 1887, p. 52.

remedies such as those mentioned, which cause no perceptible irritation, surely, though in some cases slowly, exterminate it.

Kerion should be treated by the application of boracic starch poultices, till the swelling and inflammation subside, and subsequently the ointment, for which a formula will be found on page 271, should be used till all signs of the ailment have disappeared. The smooth bald patch left behind becomes covered, or all but covered, with hair in course of time.

Certificates of cure should never be given till at least some weeks have elapsed after no diseased stumps or hair can be found. This period of quarantine is rendered necessary by the fact that hairs break off within the follicle, and thus no evidence of disease may be discovered till these have in their growth shown themselves on the surface. Though probably less contagious in its declining stages, we cannot pronounce it not so till all diseased stumps and hairs have quite disappeared, and the scalp has assumed the condition of health.

(2) *When other regions provided with strong and deeply set hairs, as the beard or axilla, are affected.*—Ringworm of these parts arises from one or two causes. First, and far most frequently, from contagion in the process of being shaved by a barber—"a foul shave," as such is popularly termed. I believe it is the brush and soap-box which is the real instrument of conveying the parasite, and not the razor, though a slight cut or scratch by the latter does favour implantation. In all likelihood the barber has shaved the head of some child affected with ringworm, and the alkali of the soap being in no sense a parasiticide, the spores are thus carried to the cheek or chin of another person. The reverse may occur; thus a gentleman with tinea barbæ of the chin communicated it to his little daughter by resting the diseased spot on her head. The disease is not or is common in proportion as men shave themselves or are shaved, though there is a something more than this. In France it is frequently met with, and seldom in Germany. It is fairly common here, and has become increasingly so since

fashion has condemned the beard and whiskers, and for the moment favours the cultivation of the moustache alone. There is therefore a certain relation between the prevalence of tinea tonsurans of the head in children and tinea barbæ in adults.

Another, though less frequent cause, is the communication from animals, especially cows and horses. This is usually the mode in which persons who do not shave contract it, and, so caught, the disease is peculiarly obstinate. The fungus seems particularly luxuriant in the domestic animals, or there may be actually some difference in species in the fungi. In some rare instances the disease has been communicated by the scissors of the barber. A man who did not shave came to me with ringworm of the whiskers, and stated that, having gone to a barber to have his hair cut, the barber pricked his cheek in one or two places with the point of his scissors, and these in a few days formed the starting-points of his disease.

However acquired, the first symptom noticed within two or three days after exposure to the source of infection, is the appearance of one or more reddish, dry, slightly scaly, circular spots in the whiskers, or on the chin or neck. These are accompanied with a noticeable amount of itching. If nothing be done, other similar spots appear, and thus a considerable area of the hairy part of the face may be affected. The hairs on the diseased parts look dry and withered, some appear thicker than they should be; but the disease may not proceed farther, but remain indefinitely in this condition. The upper lip is seldom implicated, yet I have seen it confined to this situation. In one such case there was a fairly hard nodular prominence, which had been supposed to be either rhinoscleroma, or epithelioma, but which rapidly disappeared under the daily application of the sulphur and thymol ointment. In another much more remarkable, and so far as known to me unique instance, the disease was confined absolutely to the interior of the nose.

111. A. F., thirteen, from a farm in the country, came to the

Royal Infirmary on 1st November 1890. He was a well-grown, healthy, intelligent lad. Three weeks previously a small scab formed inside the left nostril on the outer side. This grew rather quickly, so that when seen there was a warty-like growth, dense in consistence, plush-like on the surface, which filled up the entire nostril, even displacing the ala to some extent. It was covered with a fine brownish dust, and a little dried blood. A scraping examined for the trichophyton did not reveal any fungous elements. There was no inflammatory areola, nor was pain complained of, merely itching. He was employed in the farmyard, but was not aware that any of the cattle had ringworm. Still the characters resembled tinea more than aught else. He was directed to wash the affected part with care twice daily with the over-fatty potash soap and water, then rub in firmly the sulphur and thymol ointment. Improvement immediately commenced, the itchiness first ceased, then the tumour steadily diminished in size, and when last seen on the 19th November was all but entirely gone.

In many instances, however, further progress occurs, the parasite penetrates more deeply, and a condition analogous to kerion is produced. Rounded uneven tubercular formations are developed. These present a reddened aspect, the hairs are loosened, or in parts have fallen out, and a viscid yellowish fluid exudes from the follicles. The masses of infiltration when pinched up feel firm, and the larger ones at least involve not only the skin, but the subcutaneous connective tissue also. The surface of these tubercles may be covered with crusts, and when these are removed a raspberry-like appearance is disclosed; a few isolated pustules may also be seen, due to a single hair having become diseased. The secretion from these dries into crusts, and when these are removed the loosened hairs are extracted also.

The follicles of the beard are so much larger, their base is placed deeper, and the hair which grows from them is not only thicker but more porous than that of the head; consequently the *Trichophyton* flourishes more luxuriantly, and sets up greater

irritation in the tissues. It cannot, however, be found in all the hairs removed from the diseased area. The complaint, though set up by the parasite, spreads to adjoining districts. The pus acts as a parasiticide, or obscures observation. Besides itching, pain of a throbbing character is commonly complained of.

The round, firm, nodular tubercles are largest in the submaxillary region, where the subcutaneous tissue is loosest. The raspberry-like formations are chiefly seen in the space between the chin and lower lip. Why the region of the moustache usually escapes cannot be explained. The course of the disease is a chronic one, and it is met with chiefly between the ages of twenty and forty-five. It seldom if ever permanently destroys the hair. In the following case the mode in which the fungus enters the hair was clearly made out.

112. T. D., aged twenty-two, a healthy, well-complexioned young man with dark hair, was, while from home, shaved by a barber on the 12th of August. Three or four days after he felt that a small spot of the beard under the jaw on the right side was itching, and he scratched it. It looked, he said, a little red. He paid no attention to it, till in the course of time he noticed that it had grown to the size of a threepenny piece, was slightly scaly, and that there were several other spots resembling it scattered over the hairy part of the neck. He consulted me on the 13th September. There were then about half-a-dozen round, dry, slightly scaly patches on the neck, not reddened. The surface looked as if it had been powdered with flour. The hairs were as a rule firm, and their extraction caused pain; but some few came out easily and painlessly. Those which were extracted were soaked in chloroform and allowed to become dry, and any which exhibited a whitish tint were treated with liquor potassæ, washed, and examined in glycerine. Some of these were found invaded by the *Trichophyton tonsurans*. One or two were found in such an early stage of invasion that the mode in which the fungus insinuates itself into the hair could be satisfactorily studied. In such the fibrous structure of the hair was

as yet quite healthy, and the medulla unchanged. The imbricated epithelial cells which cover the hair and bind together the fibrous structure were alone involved. The bulb of the hair was natural; it showed its ordinary transparent appearance, studded with minute pigment granules, and with the wrinkled and thinned inner layer of the root-sheath attached. Above the bulb and for a short distance the root was also unchanged, but then the regular tile-like overlapping of the sheathing cells became disturbed. Here and there cells were seen raised up and projecting a little from the surface of the hair. In one part a number of these cells seemed loosened, as if pressed outwards by something which had forced itself between them and the proper fibrous structure of the hair. Higher up the regular imbricated arrangement of the cells became again natural. On careful focussing, and especially when a power of 800 diameters was employed, it was seen that beneath each cell raised from its place was a spore or spores of the fungus; and where the cells had been raised up *en masse* a thread of mycelium was seen making its way downwards obliquely into the hair. When the outer surface instead of the edges of the hair was now brought into focus, the mycelium was seen ramifying freely over the surface immediately above the part where the cells were displayed, and groups of spores were seen disposed near the mycelium. The mode in which the fungus enters the hair is thus as follows:—Spores having been implanted at the mouth of the hair follicle in the act of shaving, take root, and mycelial threads insinuate themselves between the root-sheath and the hair, and developing, form an interlacing meshwork outside the hair root. Their presence sets up a degree of irritation which varies in different individuals, but a certain amount of exudation is poured out, and this, macerating the hair and swelling it, causes a loosening of the cortical sheathing cells. Under these cell spores are deposited, and these elongating into tubes, ramify in the fibrous structure of the hair, tear apart the fusiform cells, render it opaque and the medulla invisible, and

finally produce so much brittleness that the shaft, soon after losing the support of the follicle, breaks off short. The bulb is seldom invaded, and hence baldness does not result from ringworm, unless so much inflammation is set up as to destroy the hair papilla by suppurative action.

Tinea barbæ may be confused with a late tubercular and ulcerating or vegetating syphilide. In it there is a dirty, irregular, and fungating ulcer, which usually presents more or less of a crescentic outline, the hairs are not much loosened, but in places have fallen out, and have been replaced by a cicatrix. I have met with this condition forty years after the primary sore. There has been no history of communication by shaving, and treatment by iodides causes at once an improvement in the syphilide, while it exerts no effect upon the parasitic disease. True sycosis is most common in persons who permit the beard to grow; the disease is symmetrical, consists of pustules seated at hair follicles, does not itch, and can usually be connected with a lowered state of the general health. Eczema of the hairy parts of the face exhibits moisture with redness and some degree of infiltration. There is as a rule evidence of the disease elsewhere.

The treatment is much more satisfactory than in the previous form. It consists in keeping the parts scrupulously clean, removing all crusts by poultices, and epilation of any loose hairs. The application most generally curative is the sulphur and ammoniated mercury ointment, the formula for which has been given, but sometimes a lotion of the hyposulphite of soda, one drachm to the ounce of water with a little glycerine, answers better, and when one method of treatment fails, it is well to resort to another. Occasionally a tinea barbæ has been the commencement of a true sycosis, but this is a much rarer event than is commonly supposed.

The hairs should be kept very short by clipping them, as the act of shaving may convey the disease to adjoining parts. This ought to be done at night, the face thereafter bathed with extremely hot water, dried, and the ointment rubbed in.

(3) *If parts of the general surface on which fine lanugo hairs grow are attacked.*—When ringworm is seen on the arms or thorax, it is called *tinea circinata*, when on surfaces in more or less close contact with others, as the inner aspect of the upper part of the thigh, it has been named *eczema marginatum* or *tinea trichophytina cruris*. The symptoms produced by the *Trichophyton tonsurans* on such parts are various, and depend on several factors. We must take into account the differences which exist in the irritability of skins. The fungus may produce merely hyperæmia, itchiness, and desquamation, or there may be some degree of serous effusion and inflammation, which latter may present the character of an eczema: all this is very much regulated by the nature of the particular skin, and by the situation.

Fungi, when they are implanted on the cutaneous surface, spread centrifugally, the mycelial threads insinuate themselves beneath the layers of the epidermis, and push their way on. The irritation thus caused is greatest where the mycelium has newly penetrated, while the skin becomes tolerant, so to speak, of the parasite when its occupancy is more prolonged, so that in course of time the centre of the patch may assume a somewhat natural aspect, although in other cases the appearances presented are uniform throughout the whole area. The spores, too, which are a later phase of the fungoid growth than the mycelium, being developed from the tubes, would seem to be less actively irritating. If the *Trichophyton* is related to the mould fungus, *Mucor mucedo*, the mucor in development causes an acid fermentation, and should the *Trichophyton* do the same, the acid so produced may be the cutaneous irritant. Martineau states that a specific gonorrhœa in the female may be distinguished from a simple vaginal discharge by the application of litmus paper. In the specific form the reaction is always acid, while in the simple it is always alkaline. Here the gonococcus may be the deciding element in the fermentation.

On the general cutaneous surface tinea circinata begins as a

little rose-red and slightly elevated spot, which, when first seen, is about the size of a threepenny piece. This soon becomes the seat of slight branny desquamation, and may tingle or itch a little. The spot enlarges in all directions, while the centre may grow paler, and there may now be seen an erythematous crescent or circle, well defined at its external margin, but including skin little altered from its natural appearance. At times, however, the whole affected part continues red, dry, and rough, with a round or oval contour, and uniform in character throughout. It looks exactly like a patch of dry scaly eczema, such as is often seen on the nape of the neck, but instead of fading away at the edges, it is sharply defined. The number of patches such as described vary, but as a rule they are not numerous, indeed there may be but one. While they may be seen on all parts of the body, they are most frequent on the face or sides of the neck, the back and outer sides of the wrist and the hand. On the back of the hand in men they are often the result of rubbing the chin affected with tinea barbæ.

Occasionally, though rarely, the margin of the patch is vesicular, forming a band one-sixth of an inch or more in breadth, which uniformly encloses a dry, crusted, or somewhat scaly surface. This variety is most commonly met with, according to Besnier, on the dorsum of the hand.[1]

In Austria tinea tonsurans may extend widely over the surface, being then described as *tinea tonsurans maculosa* or *squamosa*. There is reason to believe, however, that many of the examples of this form are not really ringworm, but are marginate lichen,[2] or pityriasis maculata. Such extensive cases are not seen in Great Britain.

On the scrotum, the inner surface of the thigh in contact with it or adjoining, on the abdomen and perineum, we meet with a compound of eczema and tinea tonsurans, to which the name of *eczema marginatum* was originally attached by Hebra

[1] *Annales de Derm. et de Syph.*, 1889, p. 222.
[2] Behrend, *Berliner klinische Wochenschrift*, No. 38, 1881.

before its true nature was revealed by the researches of Kobner. Either this condition is developed out of a pre-existing eczema intertrigo, or an eczema becomes superadded.

The moisture and warmth of the localities favour remarkably the growth of the fungus, and the disease thus presents characters of obstinacy met with nowhere else except on the head. While most common in hot climates—in India it is known as "dhobie's itch"—it is not very infrequent here, and even in those who have never been out of Europe. Besides the inner side of the thigh it occurs also in the axilla. Shoemakers are said to be frequently affected. The margin of the patch, which may be many inches in diameter, is red, raised, and crescentic, and may be linear or papular. Very often it is seen as a delicate red line. The centre is paler, fawn-coloured, and often slightly moist, but it may be scaly. There is always more or less itchiness, at times very distressing, and in the case of females the consequent scratching may cause enlargement and chronic thickening of the vulva, labia, and clitoris. The course is usually a long one, especially if no or unsuitable treatment be adopted.

In the earlier stages the fungus, which seems identical with that of tinea tonsurans—the mycelium being specially abundant and large—is easily found; in the later stages it is either absent or discoverable with difficulty. It was this latter circumstance which led Hebra to regard it as a mere variety of eczema, presenting peculiar clinical features and remarkable obstinacy. However long it persists, it never seems to invade the hair growing on these regions.

The diagnosis of tinea tonsurans of the body cannot always be settled by the microscope. Lichen marginatus or pityriasis maculata has most resemblance to it. There is the same linear red margin and fawn centre, but it is seldom encountered save on the chest and back, and it is usually recurrent. Psoriasis, when undergoing cure, and then showing merely erythematous circles, or when in a mild form, and in fair or anæmic persons,

and when there are few patches of eruption, may resemble it. The knees, elbows, and scalp should be carefully looked over, and evidence of symmetry sought for. The history, too, of repeated recurrences may aid us, and should the scalp bear traces of disease we may conclude the case is not one of ringworm, if the patient is over sixteen. The vesicating form resembles a vesicating erythema multiforme. (See page 109.)

Eczema, when limited to a few patches, may simulate it. Indeed, the parasite of ringworm actually sets up an eczema, as is well seen in that variety which affects the groin. But in simple eczema it is unusual to have a sharply defined margin; and while one or two patches may exhibit this, others will be found to merge at their edges insensibly into healthy skin, while the centre is worse in comparison than the periphery.

There is a recurrent form of syphilis assuming a ring-like aspect, perhaps most common on the face, which may appear in the tertiary epoch, at the first glance suggestive of ringworm. But the colour, the discovery of other varieties of eruption co-existing elsewhere, will tend to dispel this illusion, while the absence of itching, and the failure on examination to substantiate the existence of parasitic elements, are aids in coming to a correct conclusion.

Body ringworm yields as a rule within ten days to washing with over-fatty potash soap twice a day, followed by the application of the ointment of sulphur and white precipitate already mentioned. But it is otherwise with eczema marginatum. This is certainly most efficaciously attacked by repeated soppings with freshly prepared solution of sulphurous acid as recommended by Bulkley.[1] The strong undiluted acid must be used, freely bathed on the parts several times a day. It must be fresh, as if kept the acid is apt to become partially transformed into sulphuric acid by the addition of one equivalent of oxygen. This makes the application irritating, and causes pain. With this separation of the parts should be combined, a well-

[1] *On the so-called Eczema marginatum of Hebra*, New York, 1877.

made suspensory bandage should be worn, or Unna's powder bags filled with the salicylic talc dusting powder. Any excess of irritation is best calmed down by these, or by the use of Ihle's paste.

A complete idea of the various phases of ringworm may be obtained from the undernoted plates. Tinea tonsurans in early stage on scalp, *Duhring's Atlas*, Plate E E; in disseminate form, *Tilbury Fox's Atlas*, Plate LIV.; tinea kerion, *Sydenham Society's Atlas*, Plate XXXV., and *Tilbury Fox's Atlas*, Plate LV.; ringworm of the body in *Wilson's Portraits*, Plate A I; tinea barbæ in scaly form, *Neumann's Atlas*, Tafel LXXI., in the nodular form, *Duhring's Atlas*, Plate S; eczema marginatum, *Neumann's Atlas*, Tafel LXX.

CHAPTER XXXV.

THE PARASITES OF THE SKIN—*continued.*

THERE are some diseases which would seem to be dying out, while others, on the contrary, appear to come into greater prominence. *Favus* is one of those which is assuredly rarer than it once was. Better food, greater attention to cleanliness, an earlier recognition of its characters, and improved modes of treating it, have aided in lessening its frequency. I have seen it most commonly in Irish of a low class and in Polish Jews. Its mode of development is best studied on a head from which the favus masses have been removed by softening with oil, the subsequent application of poultices, and washing with soap. The head then looks clean, the skin in parts sharply defined from the rest, redder than it should be, glossy, occasionally moist, and, if the disease has lasted long, denuded in places of hair; or it may be little more than drier, and a little scaly.

Untreated, however, this state of matters is not long maintained. In course of a few days a white scurfiness forms, not assuming any very distinct arrangement. By and by minute sulphur-yellow plates crop up here and there round a hair, but thinly covered by a layer of epidermis in immediate relation to the hair. Indeed in nearly all cases on the scalp the favus crust is permeated in its centre by a hair, which influences its further development. The attachment of the epidermis being firmer just round the follicle, the favus cup remains depressed in its centre, while it rises

slightly at its periphery, and may even break through the cuticle, thus producing a fringe or collarette at the extreme edge. The yellow crust finally attains the size of a split pea, the older and central part tending to grow paler and more like the natural hue of the epidermis, while the peripheral continues yellow.

The favi are singly, roundish, seated in the epidermis, but causing by their extension a depression of the derma, and from this they can be raised bodily, as plano-convex bodies, if a blunt-pointed instrument be carefully insinuated beneath them. The surface thus disclosed is smooth and moist or greasy. The natural elasticity of the skin rapidly removes the dimple, but left to itself a new crust soon takes the place of the old one. The pressure of contiguous favi causes each to acquire a somewhat hexagonal contour. About twelve days elapse between the commencement of desquamation and the manifestation of the yellow spot.

In general, in cases which have lasted some time, we find groups of favi irregularly scattered over the scalp, partially enclosing areas where the disease has died out. The scalp in such situations is atrophied and bald, and has a cicatricial aspect, which, as in other conditions, is redder the more recent it is.

Favus commonly starts at a hair, and penetrates this, having insinuated itself between the root-sheaths and entered the hair in the soft spongy tissue near the bulb. It destroys the lustre of the hair, renders it friable, though it does not break off as in tinea tonsurans, and from pressure finally loosens it. Baldness is caused partly by the tension of the skin due to the crusts, partly by inflammatory irritation set up by the skin and follicles.

In the early stages itching is inconsiderable, but increases with the advance of the disease. It is difficult, however, to say how far this symptom is due to favus alone, as pediculi are nearly always present also. The scratching which ensues gives

rise to numerous secondary lesions, including the formation of pustules and hæmorrhage. The peculiar mouldy or mousey odour is evolved in proportion to the extent of the disease. This is not so constant a symptom as students seem to suppose, and its recognition depends somewhat on the acuteness of the olfactory sense.

Favus may occur on the trunk independently, but when there it is commonly due to extension from the scalp. We may sometimes see on the body dry, red, scaly rings, smaller than but resembling ringworm of the body. The co-existence of those led Hebra and others to think that the two diseases were to some extent interchangeable, an opinion now abandoned. It may insinuate itself under the nail, the fungus having been implanted there as a result of scratching. In this latter situation it is peculiarly obstinate. It is seen as a yellow spot lying under the nail substance or protruding from its free margin in front.

The disease is said to commence in many cases about the time of the eruption of the first permanent molar teeth, between six and seven. Those affected with it are frequently strumous, though the enlarged glands in the neck are more probably caused by the irritation in the scalp than by the diathetic state. The disease itself is thought by some to exert a deleterious effect on the health of those suffering from it, from absorption of the matters produced by the fungus growth. It is an eminently chronic disorder, and, though its progress sometimes becomes spontaneously arrested, and a cure takes place in the majority of cases, it advances till all the hair follicles have been destroyed, and complete and permanent baldness, with dense cicatrisation, has been occasioned. In a case cited by M. Lailler a man of forty, who had had favus when a child, but had been free from it for twenty-five years, experienced a return of the complaint owing apparently to the exhaustion and hardship consequent on the siege of Paris, without exposure to any fresh source of infection.[1]

[1] *Annales de Derm. et de Syph.*, January 1889, p. 28.

The cause of the disease is the presence and continuous growth of the *Achorion Schönleinii*, which, discovered by Schönlein, was named after him by Remak. Favus is contagious, but more than any of the parasitic diseases of vegetable origin does it need a congenial soil, at all events to spread far and widely. It has, however, been often artificially inoculated. It is met with among the lower animals, as mice, rats, cats, and dogs. A gentleman brought me a pug pup with some suspicious yellow spots on its head, which turned out on examination to be favi. The dog in this case was unhealthy. In man it occurs almost exclusively among the poor, and in them scarcely except in the dirty and ill-fed, and in those whose environment is unhealthy. I have never seen an instance among persons of the upper ranks, though one case came under my care in a young woman in fairly good circumstances. Infection may apparently be communicated by the bedding. In M. Lailler's experience a woman with favus was for some time in his ward. On her discharge some articles had been insufficiently cleansed or disinfected, since two or three weeks later the patient who next occupied the same bed became affected.

The favus scutulum, unseated from the depression in the corium, is found when broken up and examined microscopically to consist mainly of branching mycelium, oval or round spores, and some granular *débris*, which contains zoogloea, rod-shaped and round bacteria, and some pus corpuscles. The mycelium is composed of shorter pieces than in trichophyton, and the individual branches vary somewhat in diameter. In hairs affected with favus the fibrous tissue is much less broken up than is the case in tinea tonsurans. The mycelial threads run lengthwise, though some crossing filaments can also be made out. One reason why the hair is less disorganised than in tinea is probably because the achorion grows more slowly than the trichophyton, and thus the hair becomes more accommodated to its presence. Hairs affected with favus have none of the ragged outline nor the dissected aspect that those in tinea tonsurans

have, and consequently they, when they do break, do so at a much greater distance from the skin. When moistened with pure chloroform they do not assume the chalky whiteness on its evaporation which those in tinea capitis do, and this affords an easy discriminative test. There is more mycelium and fewer spores as a rule in the hairs in favus, and these latter are more frequently oval than round. As a rule it is not difficult to distinguish between a hair from a case of favus and one from ringworm of the head, but the resemblance is closer in ringworm of the beard.

The botanical position of the achorion has not been determined. From cultivations from the crusts Quincke[1] has come to the conclusion that the morbid appearances can be produced by at least three different fungi. Only one of these was hitherto found in each individual case. Each presented peculiarities of its own. Boer,[2] by means of plate cultivations from favus in the mouse, obtained organs of fructification of an oblong shape, seated at the extremity of mycelial threads. When the eighth generation was inoculated into the mouse it reproduced favus, the yellow puncta becoming visible in about fourteen days. There seems no room for doubt that the fungus is a distinct one, which gives rise only to favus.

The microscope should always be employed in any doubtful case. All the hairs are not diseased, and thus failure to discover fungus elements at first must not too readily be accepted as evidence that the case is not one of favus. Eczema may complicate favus, and both the scaly and the pustular varieties of eczema may somewhat resemble it. Pustular eczema in a strumous subject may in time produce bald areas which are very like those caused by long-standing favus, but such cases are rare.

In treating favus there is more need for attention to the general health than in ringworm. Iron, cod-liver oil, and the phosphates of lime are the remedies indicated, but these are mere auxiliaries to the real cure.

[1] *Monatshefte für praktische Dermatologie*, No. 7, 1886.
[2] *Vierteljahresschrift für Dermatologie und Syphilis*, 1887.

When the disease has lasted any length of time, and spread widely, only persevering and continuous effort to starve the parasite out can be expected to do good. In the first place the hair should be cut short; there is no necessity to have the head shaved as in ringworm. Then all favus masses and crusts are to be thoroughly softened by soaking with oil, and afterwards removed by washing with soft soap and warm water. In this way the scalp is made to assume a red and shining appearance.

Since the fungus does not render the hairs very brittle, they can, if care be taken, be removed entire with epilating forceps, and without very much pain. This can be lessened if oleum sesami, with five per cent of carbolic acid, be applied each time before epilation is begun. Epilation should be done systematically, beginning at one part, and clearing the scalp of hair by regular advance from the point of commencement. In cases where there are only a few diseased areas, it may be sufficient to epilate all the diseased hairs, and a margin of a quarter of an inch in diameter of sound ones round each affected spot.

The hair is now kept cropped very short, the head washed daily with over-fatty potash soap and warm water, and the undernoted paste applied directly after the scalp is dry.

℞ Resorcini . . . . . ʒi.-ʒiss.
Zinci oxidi . . . . . ʒi.
Lanolini,
Vaselini,
Pulv. amyli, aa. . . . . ʒii.
—— M.

An immediate improvement is visible, the head remains clean, though the diseased parts are somewhat redder than the still healthy portions. While this is being carried out epilation must be repeated from time to time where the hairs present evidence of unhealthiness. The parts affected with favus are red compared with the healthy portions of the scalp. In some instances, when the paste has been used for a week or two, the

horny layer becomes condensed and peels off as a consistent and transparent film, leaving the surface beneath a little red, polished, but with its continuity unbroken.

The spores, abundant before treatment is begun, in the hairs and around them, are the first to disappear, but the hairs are for some time longer permeated by the mycelial tubes, along which the liquor potassæ in which the hair has been soaked for examination can be seen under the microscope coursing rapidly. After treatment by resorcin the hair grows freely, and unless complete destruction of the follicles has occurred before treatment was commenced, but little permanent baldness may be left.

That the paste is really parasiticide is proved by the following cases.

113. A child was admitted into the City Hospital with whooping-cough, and it was found that on one shoulder was a patch of favus the size of a shilling. The diagnosis was established by microscopic examination. The favi was removed by poultices, then allowed to grow once more, and again removed in the same way. The surface was now smeared with the resorcin paste for ten days, then left alone, and the favi did not reappear though the child was more than a month under observation.

114. J. F., fourteen, has had favus since three years old. He is pale and ill-grown, with red hair. Has never been at school in consequence of the state of his head. The head is covered with thick masses of favi, and bears a thin, weak, and woolly hair. Treatment was commenced on the 11th December 1887, and on January 26th, 1888, though the hair grew plentifully, many diseased filaments could be found. The scalp was therefore completely epilated, the application of the resorcin being continued till the middle of May, with occasional intermissions. He was then quite well, without a trace of favus, and with a close and uniform crop of hair all over the head.

It should be mentioned that this paste does little if any good in tinea tonsurans.

Tinea versicolor constitutes the third of the skin diseases due

to vegetable parasites known in this country. It is occasioned by the growth and development in the superficial layers of the epidermis of the *Microsporon furfur*. The hairs never seem to become affected, and as a rule the disease is limited in its distribution to the covered parts of the body. Biart has seen it on the face, and Payne[1] on the scalp in a patient suffering from seborrhœa. The eruption is characterised by spots and large patches of a colour which varies from a pale fawn yellow in some individuals, to a dark brown or almost black in rare examples. These patches present a somewhat map-like aspect, the larger and central areas representing the continents, while the smaller and more outlying spots will stand for islands: portions of unaffected skin enclosed here and there may be regarded as inland lakes, or portions of sea. The surface of the patches is composed of branny scales, more or less abundant in particular cases, and which are easily loosened and removed by the friction of the finger nail. The surface is slightly elevated.

At their commencement the spots are very small and round, but as in course of their extension these coalesce, the patches so formed are irregular in outline, though as a rule remarkably symmetrical. The smaller disconnected spots which are found beyond the margins of the larger, impart a most characteristic appearance to the eruption as a whole.

The colour depends in part on the natural pigmentation of the skin of the person. Thus in fair persons, or those with sandy hair, the hue is fawn, in brunettes or sallow complexioned persons it is light to dark yellow, in the dark or swarthy it assumes a dingy brown.

In ordinary cases it is found on the chest and abdomen, over the back, and between the scapulæ. Sometimes the pectoral regions on each side of the sternum are affected, the centre being free; in others the mesial portion of the trunk is uniformly covered, the sides more sparingly. It may extend over the arms and thighs, but the uncovered parts may be said to be exempt.

[1] Liveing, *Handbook of Diseases of the Skin*, 1887, p. 403.

probably because the spores are displaced by washing. It has never been observed on the palms or soles.

It is but feebly contagious, for though there are undoubted instances where it has been communicated, it would appear that this only occurs to persons who occupy the same bed for an indefinite time.

Those who perspire freely are most liable to it, and this whether they take a daily cold bath or not. If the flannel underclothing is frequently changed the disease becomes less noticeable in cold, more marked in warm weather. Persons with dry skins are less often attacked, and this may account for its being so seldom seen after middle life, when the skin generally loses its unctuousness and perspires less. The earliest recorded case is that of a girl, aged twelve, in whom it had existed for some years,[1] but Dr. M'Lean, of Peebles, sent me notes of a case in which it was found on the chest, back, and abdomen of a boy of five. He was rather delicate, and his mother kept him rolled up in layer after layer of flannel. From puberty to fifty may be said to be the limits within which it is found.

The most curious point in its history, however, is its association with phthisis. It is unquestionably most common in consumptives. This has been explained on two grounds; one that such persons sweat much, and, secondly, that they seldom change their underclothing for fear of catching cold; or if they do, there is often some chest protector which is worn continuously for a length of time. But the researches of MM. Duguet and Hericourt, communicated to the Academy of Medicine in Paris in 1886, suggest a closer relationship. In two patients, who, besides being tuberculous, had tinea versicolor, voluminous spores were found, but neither the bacillus of Koch nor the zooglœa of Malassez. They were led from this to conceive the idea of a pseudo-tuberculosis, caused by the microsporon, or that it may even be the starting-point of a visceral tuberculosis. Indeed, there may be more than one condition proper to the

[1] Walter G. Smith, *Archives of Dermatology*, 1882.

microsporon, bacillary in the lung, and producing mycelium and spores in the epidermis. The question is an interesting one, and at least indicates the necessity of curing tinea versicolor as rapidly as possible.

The disease is seldom accompanied with any or prominent subjective sensations. It may itch, however, pretty smartly in some.

The microscopic examination is easy and reliable. A few scales placed on a slide and moistened with liquor potassæ exhibit the spores and filaments of the cryptogam. The mycelium interlaces freely, and includes within the meshes so formed groups of round spores. This network arrangement and the aggregation of the spores are characteristic of the microsporon.

With the microscope the diagnosis is certain. It may, apart from this, be confused with chloasma, or simple pigment spots. These are usually seen only on the forehead or face, though they may occur on the abdomen and back of the hands. Their surface is quite smooth and destitute of scales, and they do not itch. Tinea versicolor has been mistaken for a syphiloderm. If the spots are irritated, they sometimes become slightly reddened, but the parasitic elements are always present. It can scarcely be confounded with the pigmentary macules left by a fading syphilide. A case was once brought to me where a man had a slightly scaly eruption, which assumed the shape of spots, crescents, and rings on the chest and back. In the scales were found abundantly the mycelium and spores of the microsporon, and on closer examination of the body, especially of the knees, evidence of psoriasis was obtained. It was an instance of a developing psoriasis in a man affected with tinea versicolor.

The treatment is simple and satisfactory. The affected parts in their entirety are to be washed with soft soap and warm water to remove any greasiness of the surface. The skin is then dried and sponged over with vinegar, and, while still wet with the acid, with the following lotion:—

℞ Sodæ hyposulphitis . . . ℥vi.
Glycerini . . . . . ℥iss.
Aquam, ad . . . . . ℥vi.
——M.

The application of the vinegar followed by the lotion is to be repeated daily for a week, when, as a rule, all traces of the disease will have vanished. With this a complete change of all under-garments must be carried out, and any chest protectors or chamois vests must be destroyed. The complaint has a tendency to return, probably because some islet has been left undisturbed, but will infallibly yield to a repetition of the same treatment.

It must already be abundantly evident that the mere presence of parasites, whether these be members of the vegetable or animal kingdom, on the skin of man, does not constitute disease; it is only when they give rise of themselves, or as a result of scratching, to tissue changes, that such enable us to speak of parasitic diseases. The *rôle* played by the animal is even more purely secondary than that of the vegetable parasites.

While many animals belonging to various classes can inflict injury on the skin, there are only the *Acarus scabiei* and the three species of the *Pediculus hominis* which in this country occasion much trouble.

1. *Scabies.*—Until the discovery of the acarus, the precise nosological position of "the itch" was undetermined, and this was regarded as papular, vesicular, or pustular, in proportion as one of these lesions was most conspicuous. It is yet *sub judice* who first found the itch mite. Avenzoar, an Arabian physician, is thought to have known of its existence, and S. Hildegard, in the twelfth century, employed curative means against it. It seems to have been recognised during the seventeenth century, but this knowledge was lost sight of, to be again rediscovered in the end of the eighteenth. The accurate acquaintance with its

habits which we now possess we owe to many investigators. All are, however, agreed that scabies is caused by an irritation due to the presence of the acarus in the skin, during the excavation of burrows for the purpose of feeding and propagation, and the secondary results of scratching.

We may with Hebra consider the characters of scabies under three divisions :—

(1) Description of the acarus itself, and of the appearances which arise from its presence in the skin.

(2) Those phenomena the result of special peculiarities and of scratching.

(3) Those which arise from irritants of various kinds during the presence of acari.

(1) *Description of the Acarus, and of the appearances which arise from its presence in the skin.*—A familiar example of the family to which it belongs is the cheese mite. In general shape it resembles a tortoise, is more globular than oval, is about $\frac{1}{60}$ of an inch broad and $\frac{1}{50}$ long, and under a high power is almost transparent. The adult specimen has eight legs. The head seems distinct from the body, and is provided with strong movable mandibles.

The roundness in form varies as to repletion or otherwise. When unfed for some time, the body becomes thrown into a number of transverse folds. These overlap each other like so many tiles, and impart a crenated outline to the sides. Masses of food, as dark granules, are seen inside. On the back are arranged a number of triangular, thorn-like bodies, directed backwards, and conical nail-like projections, mostly placed posteriorly. The ventral surface is irregularly convex and concave, and has none of those appendages. Plates of chitine representing the sternum, and offshoots, support the legs. The male is much smaller than the female, and has a sucker in place of a hair-like body, on each fourth (hind) leg.

The number of eggs laid by one female varies from ten to fifty. One or several are laid at a time, incubation extends over

three or four days. The young acarus either leaves the burrow after the twelfth day or makes a side burrow.

The burrows or cuniculi are tunnels in the epidermis made by the female acarus ; running, according to Török, along the lowest part of the middle horny layer ;[1] the male either wanders about on the surface of the skin, or digs but a shallow burrow. Seen by the aid of a lens, the cuniculus in its typical form is a sharply defined greyish or whitish line, either straight or wavy, and varying in length from an eighth of an inch upwards. The colour depends much on the occupation and habits. It has an open end and a blind end, towards which the mite is moving, and where she may in favourable cases be seen as a little red or yellowish-grey elevation beneath the cuticle. Besides the adult female, it contains eggs, egg-shells, and dark specks thought to be fæces. Openings have been described in the roof; these are either accidental or due to scratching, or are the places where young acari have escaped. The female can only advance forward, any retrogression being prevented by the projections on her back, and by the eggs and acari behind.

Sometimes the burrow runs in the roof of a vesicle, which has arisen after the formation of the cuniculus. The acarus itself, however, is always embedded in the skin beyond the vesicle. In consequence adult females are seldom met with in crusts, though young acari and males may be found by boiling these in solution of caustic soda.

Scabies is eminently contagious, yet it is very rarely, if ever, caught by those examining patients, or by shaking hands with those known to be affected with it. It is communicated almost invariably by sleeping in the same bed with one who has it. Some have thought that possibly pregnant females may at times be dislodged by scratching from the burrow, and for a time live in blankets or bed-linen, and thus gain access to the skin of a second person. It is believed that the acarus has been in some cases the medium of inoculation of true leprosy, in countries

[1] *Monatshefte für prakt. Derm.*, No. 8, 1889.

where that disease is endemic, and, this possibility admitted, other communicable diseases may be spread by its means. The acarus seems never to leave its burrow spontaneously, but is removed from thence by the nails in the act of scratching, and conveyed beneath them to other and distant though accessible parts. Displaced crusts may also contain mites. The period of incubation before the disease is developed is said to extend over three or four days. The female may live several months, but the persistence of the disease depends on the continuous hatching of the ova.

(2) *Those phenomena the result of special peculiarities and of scratching.*—The mite remains as a rule motionless during the day, hence itching is not then complained of, unless the sufferer exerts himself and becomes heated. No sooner, however, has he gone to bed than the acarus wakes up and continues to advance in the burrows, while the young acari set themselves to escape from the parent one, or to excavate new ones for themselves. The males, too, by their movements in their pursuit of the females, cause irritation, while various reflexes extend the sensation of itchiness to distant parts. Some skins are much less irritable than others, and the lesions due to scratching thus vary in degree and kind considerably. Isolated vesicles are perhaps the most common of the lesions seen, but papules are not infrequent, and, like the vesicles, are usually discrete. Wheals are produced in some, and ecthyma may be produced in the ill-nourished, or unhealthy, or uncared for. A bullous form of eruption is sometimes seen on the hands, and more rarely on the feet. The blebs are large and yellow, and the hands are usually much swollen and red. Indeed the peculiarity of scabies is the multiform nature of the lesions.

The situation is even more important than the kind of eruption. The mite seems sensitive to cold, hence the face is seldom attacked, unless in infants under a year old, and in very neglected cases. The hands, though exposed during the day, are covered

during the night, and thus usually affected. As they are the carriers of the acari from one place to another, it is unlikely they would escape, and seldom do, unless some medicated soap, as carbolic soap, is used to wash with. As to frequency of situation, I place the inner sides of the wrists first; then the interspaces between the fingers and the backs of the hands; and, thirdly, the front of the thighs. Inaccessible regions, as the back between the shoulders, are seldom or but slightly affected. In infants the nates and the soles, and in older children the palms, are favourite localities.

(3) *Those phenomena which arise from irritants of various kinds during the presence of the Acari.*—These are chiefly from pressure. Thus in those whose occupation causes long-continued sitting, as in shoemakers, we find papules, tubercles, or pustules near the tubera ischii. In miners, who rest on the elbow in hewing out the coal, similar lesions are found near the olecranon of the left arm. In children in arms, pustules and crusts are found on the nates.

The main practical interest in scabies centres round its diagnosis. It must be borne in mind that there are two diseases from which it is *possible* that persons in any rank of life may suffer,—scabies and syphilis; therefore we must not allow any regard to social position to lead us astray. An officer serving in India consulted his regimental doctor on account of an eruption which rendered his nights sleepless, and, combined with his duty, had begun to tell on his health. Various internal remedies were prescribed, but the complaint grew worse, and he finally presented himself before a board of examination prior to receiving leave of absence and permission to return to Europe. On this board there sat a more practical man than the regimental surgeon, who, asking to see the eruption, at once pronounced it itch, and cured it by a few applications of sulphur ointment. This case happened within the last few years, and emphasises the necessity for care in diagnosis. Scabies may closely resemble eczema; indeed it can be regarded as an

artificial eczema due to scratching. In some persons the lesions are lost in patches of erythematous or moist eczema. In deciding we must bear in mind the localities affected by scabies, as well as those avoided, the multiformity of the eruption, the fact of itching being most prominent or experienced only at night. In inquiring as to this latter symptom, the question should be put, When does this eruption itch?—not, Does it itch most at night? In obscure cases some assistance can be obtained if we can discover whether the itching commences after the sufferer is warm in bed, or when undressing. The itching of uncomplicated eczema is started afresh by the act of removal of the clothes, and the exposure of the surface to the cooler air of the bedroom; that of scabies is checked by colder air, and subsequently excited by the warmth of bed. Evidence as to contagion is important, as if several members of the family suffer in a similar manner. When a child sleeps with its mother or nurse, both are always affected if the disease is scabies. It may complicate other diseases, or be complicated by them, as in the case mentioned on page 47. The most certain evidence is the discovery of the acarus, and next to this, finding the cuniculi. But to unearth the mite some tact and a liberal expenditure of time may be needed; and the burrows are often so torn by scratching as to be with difficulty recognisable. Personally I have far more frequently failed to discover the acarus than to find it, and I prefer to rely on the general characters.

There are several methods of curing scabies, some more suited to the individual instance than others. As a preliminary in all cases the patient should have a warm bath, and be thoroughly washed with soap and water. For an adult, or where the skin is not too delicate, soft soap suits best, since it opens up the burrows, and removes all extraneous matters. In the case of children or females ordinary yellow soap may replace it. In private practice we may now use a storax or a naphthol ointment; the latter has the advantage that it is odourless.

℞ Styracis . . . . . ℥ii
Bals. Peruviani . . . . ℥ss.
Ung. simp. ad . . . . ℥i.
—— M.

℞ B. Naphthol . . . . ℥i.
Ung. simp. . . . . ℥x.
—— Solve.

The ointment should be rubbed on for four successive nights, and then discontinued. Should any fresh itchy spots or new foci of disease arise, the same treatment should be repeated.

Sulphur is probably the most efficient remedy we possess for the cure of scabies, but it has certain drawbacks. One is the unpleasant smell, another that on some skins, and unless cautiously used, it is apt to induce eczema of an artificial nature, and lastly, it reveals to our patient our opinion of the nature of his ailment.

A medical friend, now dead, told me that he was once consulted by a gentleman as to an eruption from which his son, a young man, suffered. He pronounced it to be scabies, and ordered sulphur ointment. The father was indignant that a member of his family should be falsely, as he professed to believe, said to have so dirty a complaint, and forthwith took him to another and more politic medical man. He declined to pronounce definitely as to what the disease was, but declared it easily curable, prescribed a storax ointment, and gained the patient whom my friend lost.

Sulphur may be used either as sulphur ointment or as Vlemingkx's solution. If the ointment be selected it should be diluted from the pharmacopœial strength by the addition of as much lard. It should be rubbed firmly but gently into the skin of all the affected parts for three nights, and then a warm bath taken and the underclothes changed. A night or two without any treatment should be allowed to pass to test the thoroughness of the cure. Should there be any return of itching a fresh inunction of the affected spots is usually sufficient.

Vlemingkx's solution is made by boiling together two parts of sulphur, one of quicklime, and ten of water till the residue measures six parts. The lime should be carefully mixed with the water before the sulphur is added. This yellow fluid is painted with a brush made of bristles all over the affected parts, and allowed to dry on. After six or eight hours a warm bath may be taken, which removes most of the deposited sulphide of calcium. This lotion is the best application for cases of scabies in workhouses or gaols.

Scabies is often overtreated; sometimes the ointment is too severe for the particular skin, but far more frequently the patient uses it too energetically or too long. Such results occur more particularly from sulphur, but I have seen a dermatitis follow the storax ointment also. In such circumstances the parts should be bathed with boracic starch or gruel, and painted with calamine lotion, or dusted with powder. The secondary lesions which persist for some time after the destruction of the acarus need similar management. Occasionally itching sensations persist after the cure of the scabies, and this has in my experience followed the use both of sulphur and of storax. Starch or bran baths may relieve this, but Saalfeld recommends,[1]

℞	Menthol	grs. 48
	Bals. Peruv.	grs. 90
	Zinci oxidi	ʒiss.
	Adipis benzoat., Lanolini aa. ad . . .	℥ii.

——M.

2. *Pediculosis.*—While it is now accepted that there is no such disease as that described under the name of morbus pedicularis, romantic accounts of which are to be found in the works of earlier writers on medicine, yet the skins of certain persons seem to offer specially favourable feeding-grounds for the species

[1] *Deutsche Med. Wochenschr.*, 1889.

of louse which infests the body. This, which constitutes one of the three varieties which prey on man, lives in the clothes, but derives its nutrition from the skin. It moves quickly, yet when the animals are numerous, stray specimens can be detected on the integument.

The insect is greyish in colour, and somewhat larger than that inhabiting the hair of the scalp. It does not bite, as is generally supposed, but has a narrow proboscis which it can project into the cutaneous glands, the head being at the time steadied by hooks placed round the mouth. By suction it can draw blood through this haustellum, and on the completion of the act, or when disturbed, the proboscis is withdrawn into its sheath. A little blood now wells up into the dilated follicle, and coagulating, gives rise to a minute hæmorrhagic speck, the pathognomonic lesion. These are found on the back between the scapulæ, or on the shoulders. The neck, clavicles, and shoulders are the situations where the animals are first found, and there the lesions are most prominent. When they have increased in number, then the back, the thighs, and abdomen are attacked. Wherever there are folds of the underclothing to give shelter to the insects there the lesions are well marked. *Pediculi corporis* are chiefly encountered in old persons, though they may be met with in the young. As results of their presence we have—

(1) *Irritation.*—Burning and creeping sensations, worst at night, and which are not absolutely limited to the regions named, as, transferred probably by means of cutaneous reflexes, they are experienced on other parts.

(2) *Excoriations.*—Due to action of the nails, these are linear scratches, and are seen most distinctly in the aged, in whom, from the atrophic state of their skins, pruritus is easily excited.

(3) *Eruptions.*—Torn papules, wheals, pustules, and ecthyma. In old-standing cases the skin becomes harsh, dry, and deeply pigmented.

(4) *Pyrexia.*—A rare yet perfectly well-established result of the presence of pediculi corporis or of pediculi pubis in considerable or large numbers, is the production of increased temperature as tested in the axilla. The bites of fleas or mosquitoes may similarly occasion an increase of body heat. Dr. Payne[1] thinks that in all these cases there would seem to be some poisonous substances introduced into the skin (as shown by local inflammation) and probably into the blood, a kind of poisoning in fact. Yet in his case there was no local inflammation, merely the maculæ cæruleæ due to the pediculi pubis; and in mine,[2] which were caused by the pediculus corporis, there were no local manifestations to speak of. Hence it appears more probable that the pyrexia is reflex, and owing to direct irritation of peripheral nerve-endings. The theory of poisoning may, however, apply to the fever arising from mosquitoes or fleas, where there is evidence of cutaneous inflammation.

The treatment consists in a thorough change of clothes, those removed being boiled or exposed to a dry heat of 220° F., while the body is anointed with a salve thus compounded :—

℞ Pulv. staphisagriæ . . . ʒii.
Adipis . . . . . ʒi.

The lard should be melted at a gentle heat, and digested for an hour, then strained. The skin should also be washed with carbolic or storax soap.

The *Pediculus capitis* deposits its eggs or nits on the hair near its root. The egg is attached by means of a short stalk to the hair, the base embracing the hair like a tube. The egg is furnished with an operculum or lid. The animal itself is distinguished from the *Pediculus corporis* by its triangular head, and by the brownish markings on the sides of the body; it is more common in children than adults, and affects chiefly the back and top of the head. In healthy subjects it may produce little

[1] *Brit. Journ. of Dermatology*, July 1890.
[2] *Ibid.*, August 1889.

more than a degree of itchiness. When the insects are present for some time, the scratching induces moist eczema, the hair becomes matted, and pustules and scabs form, while the cervical or occipital lymphatic glands swell. Hence in all cases where eczema appears on the back of the neck, search should be made for pediculi, or their ova. When such are discovered, the hair should be soaked thoroughly with kerosene oil or crude petroleum for thirty-six hours, the head being covered with a flannel cap, and caution as to fire being observed. The scalp should next be well washed with soap and warm water. This plan completely destroys the insects and the vitality of the eggs. The eczema can then be removed by the application of the salicylic zinc ointment. The empty egg-shells remain attached for a long time to the hair, and are unsightly. No very good solvent has been discovered, but they can be removed by repeated washing with a saturated solution of soda.[1]

The *Pediculus pubis* is least often met with. In general form it somewhat resembles a crab, hence its popular name. It is much more sluggish in its movements, clings closely to the hairs, and is thus more difficult to detect. In some it causes little irritation, in others intense itchiness at night. Its presence may evoke an eruption of an eczematous type. Whenever itching in the neighbourhood of the pubes is complained of this parasite should be sought. While its special habitat is in the region named, it has been found in the axilla, in hairy men on the chest, in the eyelashes, and even in one case with which I am acquainted in the hair of an infant's head. The nursemaid was in this instance infected.

Maculæ cæruleæ; taches bleuâtres; taches ombrées. In some individuals on whom these insects are found, stains, of a bluish or steel-grey tint, varying from the size of a pea to that of a finger-nail, are now and again to be discovered. Such are neither elevated nor depressed, seem immediately beneath the epidermis, and show no trace of a puncture nor sign of being

[1] Ziemssen's *Handbook of Diseases of the Skin*, 1885, p. 543.

scratched. They are seen chiefly on the sides of the thorax, back, chest, abdomen, and inner aspects of the thighs and upper arm. Those on whom they occur generally have clear, white, transparent skins. In most if not all instances there is no complaint of itchiness and no evidence of scratching, though the pediculi and their ova may be present abundantly on the regions named. Some indeed profess absolute ignorance of the existence of pediculi on their persons. In 1868 Falot and Moursou pointed out that they were to be ascribed to the influence of the pediculus pubis, and Duguet, in 1882-3, produced them artificially by puncturing the skin with a lancet armed with some of a paste prepared by bruising the pediculi with water. The opinion he expressed was that the pigment is most probably contained in the secretion of the salivary glands of the insect. If so, it is conveyed to the skin through the haustellum in the act of sucking, and this view is supported by evidence derived from clinical observation, since it is on those persons who have a skin of delicate texture, one easily lacerable, that they are found. They must therefore be regarded as the pathognomonic indication of the presence of the crab louse, just as the well-known hæmorrhagic specks are of the pediculus corporis. They evidently arise during the migration of the pediculi from the pubes to other parts of the body.

It is best cured by washing the parts with Unna's storax soap, which dislodges the insects, and applying freely the staves-acre ointment already mentioned.

Favus of the head is shown in *Duhring's Atlas*, Plate D, and *Wilson's Portraits*, Plates B and C; in an extremely aggravated form, with large favi on head and body, in *Sydenham Society's Atlas*, Plate I., and resembling ringworm of body in *Sydenham Society's Atlas*, Plate II.

Illustrations of the various shades from deep brown to fawn yellow assumed by tinea versicolor will be found in the *Sydenham Society's Atlas*, Plate XII.; *Wilson's Portraits*, Plate A; and *Duhring's Atlas*, Plate G.

Illustrations of scabies in its ordinary form in *Wilson's Portraits,* Plate A A; in its bullous variety in *Sydenham Society's Atlas,* Plate XXVI.

The lesions in *Pediculus corporis* are well seen in the *Sydenham Society's Atlas,* Plate XXII., and in *Tilbury Fox's Atlas,* Plate LII.

Maculæ cæruleæ will be found excellently represented in Dr. Murchison's *Treatise on the Continued Fevers of Great Britain,* second and subsequent editions.

CHAPTER XXXVI.

SYPHILIS AS IT AFFECTS THE SKIN AND ITS APPENDAGES.

THE eruptions which appear in the course of syphilis may be taken as—

(1) Evidence that the infective principle, having been deposited locally, has now definitely taken root in the general system. The syphilide exhibits more plainly the stamp of a specific origin than probably any other feature of constitutional syphilis.[1]

(2) They represent the manner in which the virus becomes slowly but steadily more deeply implanted.

(3) They have a prognostic value more marked in some cases than in others.

(4) Though seldom in themselves dangerous to life, and only under special circumstances leaving permanent traces behind, they, if on exposed parts, tend to brand the sufferer with an odious and sometimes undeserved stigma. For this reason their diagnosis must be accurately determined, and the solution of this problem, though sometimes effected with ease, at others is one of the hardest in medicine.

The occurrence of a rash in syphilis has been regarded as a link connecting it with the exanthemata, and later researches have increased the probability of this view, so strongly urged by Hutchinson. Thus Neisser[2] has ranged it in the same

[1] Kaposi, *Die Syphilis der Haut und der angrenzenden Schleimhäute*, 1882.
[2] Ziemssen's *Handbook of Diseases of the Skin*, 1885.

class with leprosy and frambœsia, one possibly, the other certainly, inoculable, both exhibiting, as part of their phenomena, eruptions on the skin after a period of incubation. The analogy must not be pressed too far, but while in the exanthemata we have the eruptive period following closely on the introduction of the contagious principle into the organism, in syphilis the interval is longer, though probably not so long as in the case of leprosy, and little more than occurs in frambœsia.

The so-called tertiary symptoms, too, in syphilis, have their homologues in the sequelæ which occasionally ensue in the acute exanthemata, and are to be regarded as remote tissue lesions, rather than as the direct effects of the specific poison. In one other point also does syphilis resemble the acute exanthemata. As a rule one attack is protective; cases of a second infection, though well authenticated, are rare, only in a few instances is exposure to the virus followed by a fresh systemic contamination.

When we come to inquire into the exact nature of a syphilide, as the cutaneous manifestation of syphilis has been called, we find that it combines the characters of inflammation and new formation; sometimes one, sometimes the other appears most prominent, but the existence of both can usually be substantiated. In all cases the eruption at its height consists of an infiltration of the papillæ and corium with cells, accumulated especially near the vessels. The infiltration is sharply defined, and does not disappear under pressure. These cells are not capable of development into the permanent tissue. They invariably degenerate and disappear, either by becoming absorbed, or are thrown off by ulceration. A peculiarity of the syphilitic infiltration is the manner in which it extends and is removed or absorbed. It increases at the periphery, which is thus the most recent part, while retrograde processes begin in the central or relatively the oldest part. Repair after destruction by a syphilide proceeds from the neighbouring healthy tissue elements. Neumann[1] has shown that the infiltration in syphilis is by no

[1] *Annales de dermatologie, et de syphiligraphie*, December 1885.

means so ephemeral as is usually supposed. Four to eight months after all visible traces have vanished, the presence of products, consisting in the main of exudation cells, can be demonstrated in the skin. In fact, not only months but years may elapse before the parts previously the seat of eruptions have been thoroughly restored to a normal condition. This fact has an important bearing on the subsequent development of late sequelæ.

There are certain features more or less distinctly marked in all the syphilodermata, which must be considered before the special varieties come to be described.

Colour.—More importance has been attached to this than it possibly deserves. It is commonly spoken of as coppery, or the tint of raw ham, and both these terms are applicable under certain conditions and at particular stages of the individual eruption and of the disease. The early macular rash is pale rose red when it first appears, though this passes into a fawn colour or brownish hue in course of time, prior to its extinction. The constitution of the person affected has an influence. If fair in complexion, well nourished, with a transparent skin, a clear pink or somewhat rosy hue predominates. If the person be naturally dark, with a thick skin, or if out of health, either from previous ailments or as a result of the syphilitic cachexia, the eruption will present more of a dull reddish brown, a little like that of a new bronze coin. In the old, whose skins are dry and wrinkled, it is more of a brownish purple, and the later in the disease the more this latter shade comes into prominence. The longer the rash persists the deeper the colour, and this reaches its climax in the dark, almost black, staining—the so-called pigmentary syphiloderm—seen on the lower limbs and neck after the eruption has disappeared which led to this. The persistence of the abnormal coloration of the skin is almost peculiar to syphilis, and may sometimes be made use of in its diagnosis. Exposure of the trunk to a cool atmosphere for a short time will occasionally serve to recall traces of an eruption,—for example,

a macular syphilide, which was quite invisible when the skin was warm.

The *dusky reddish tinge* seen in old eruptions or on dependent parts is due to several features. Among these may be reckoned the compression of the vessels in consequence of the dense cell infiltration of the tissues, the transudation of blood-colouring matter, the indolent course pursued by the specific eruptions, the delayed circulation in the lower limbs, and possibly diathetic conditions themselves.

Localisation is another point in which the syphilides exhibit preferences. Thus they should be looked for near the natural orifices of the body, where perhaps the greater degree of movement may have some effect in placing them. The flexor aspects of the limbs, the front of the body, the epigastrium and hypochondria, the forehead near the hair, and the nape of the neck, are all common situations. Symmetry appertains more to the earlier, those of the secondary period; the later or tertiary are more often non-symmetrical, though they may affect both sides of the body.

The *absence of itchiness* or of burning sensations is tolerably characteristic, and it is this more than anything else which leads to the denial, on the part of persons attacked by the later manifestations, that they ever had a rash succeeding the chancre, or indeed any previous eruption at all. This had caused no annoyance, and was overlooked. When, however, the eruption develops rapidly, and particularly when it assumes the papular form, there may be considerable itching. Certain occupations, too, increase this liability; such are chiefly those which cause or are associated with dust.

The *individual elements* of the eruption in syphilis are *more sharply defined* than is ordinarily the case in non-specific cutaneous diseases, with exception of those due to vegetable parasites and some forms of lichen. The shape assumed by the lesions, too, is usually round, or a derived shape, as crescentic, or like a horse-shoe. This latter is specially seen in the specific

ulcer. They develop slowly in comparison with those of a simple nature. This, however, does not in all cases apply to those ulcers which resemble lupus; in them the converse holds good as a rule. They are also much more frequently associated with simultaneous affections of the mucous membranes. Lichen ruber planus almost alone shares in occasional instances this peculiarity with them.

Syphilis of the skin, like scabies, eczema, erythema multiforme, and dermatitis herpetiformis, exhibits the character of *polymorphism*, but in the first three in a somewhat different manner from those. In the secondary syphilitic rashes various types may be seen at one and the same time. Thus macules, scaly patches, and mucous tubercles often co-exist; papules and pustules are intermingled, or at a later stage nodes may be found in one part, ulcers in another. It is thus of paramount importance in all cases of doubt to examine the whole cutaneous surface. What is known as a transformation *in situ*—the gradual evolution of one form of primary lesion from another—accounts for some of those cases; the fact that the eruptions in syphilis appear in successive crops, and that one may not have entirely faded before another has appeared, for others. Explained as it may be, however, this co-existence of several forms or stages is a most important factor in diagnosis.

The scales seen on papules in process of retrogression are generally scanty and of a dirty yellow hue, since they form slowly and are stained with blood pigment, while the keratine itself has turned brownish from age. They form first in the centre of the papule, and for a long time a ring of infiltration separates them from the sound part. The crusts are discoloured, thick, and dry; when removed either a tubercle or ulcer is exposed.

The presence of *numerous* smooth, flat, whitish scars is suspicious, and when no history of previous injury or burns which might have occasioned them can be made out, these furnish valuable corroborative proof. Chicken-pox, it must be borne in mind, does now and then leave just such smooth white

scars, and so does herpes zoster. In syphilis they owe their existence to a rupia, or to the cicatrisation of gummata, hence they are seen on the trunk, arms, or thighs, or on the scalp or legs below the knee.

The destructive effect of syphilis on the red blood corpuscles, and the impairment of the general nutrition, with incomplete renewal of the tissues, causes a more or less cachectic condition. This is shown by pallor and dirty opacity of the skin. It is not expressed to anything like the same extent in all persons, and is more evident in chronic syphilis than in the earlier stages of infection. The opacity is occasioned by diminished transparency and increased pigmentation of the skin. There is for the time what may be called a premature though temporary senility of the integument.

As in all skin affections, the history should be employed to check the results obtained from our examination of the objective symptoms. In many cases we cannot even ask whether there has been a primary sore or not; our opinion must be formed from estimating what we see. The want of truthfulness in some, wilful reticence, ignorance, and stupidity in others, render statements made by the patient often of little value, all the more since in some of the most difficult cases very many years may have elapsed since exposure. When the history is obtainable, the inquiry must be precise, not vague; the laity, and even some medical men, confound syphilis with other venereal diseases.

There is as yet no positive relationship made out between the abundance or otherwise of the early cutaneous manifestations and the occurrence of subsequent disease of internal organs; but there is a prevalent opinion that cerebral syphilis less often ensues in those who have had a copious secondary rash.

The virus of syphilis having established itself in the system, and given rise to the chancre, a variable period elapses, within which no farther evidence of its propagation occurs. This may be set down at an average of from six to twelve weeks from the date of infection. The intercurrent manifestation of some other

disease, as pneumonia or rheumatism, may exert a modifying effect. When mercurial treatment has been commenced with or shortly after the appearance of the chancre, a delay in the evolution of further phenomena takes place. The poison, however, is gradually making its way, and though the most prominent proofs are felt in the enlarged glands, or seen on the skin, there can be no doubt but that the internal organs are being in like manner disturbed, and their functions interfered with. A feverish condition is set up, prefaced by the ordinary symptoms which usher in such a state—as languor, headache, most marked or only present at night, loss of sleep and appetite, and aching pains throughout the body. In some, the rise of temperature is considerable and well marked, while in others it is scarcely noticeable, though even in those, carefully conducted thermometric observations in the evening would probably show an increase in body heat. According to Wunderlich, the curve in the syphilitic fever is peculiar, the type being remarkably remittent, the morning fall frequently being to or below the normal level. This may explain the apparent apyrexia, and explains also the evening headache, though this may be due in some measure to anæmia, since it disappears when the red blood corpuscles have been restored by mercurial treatment to their normal proportion.

The variation in the amount of fever has to do not merely with the rate at which the poison enters the organism, but also with the degree in which the individual reacts to irritants—a co-efficient of fluctuating value. The combination of symptoms which we call fever most frequently owes its origin to the reception of some injurious agent into the organism, which indirectly endangers its existence, and recovery follows only after this agent has been again removed from the body.[1] The skin plays an important part in the regulation of the body temperature; in fever the cutaneous vessels are subjected to frequent alterations in their tension, the rhythmical nutrition of

[1] Virchow's *Archiv*, Bd. lxxvi., p. 184.

the skin being affected thereby. Hence one cause of the eruptions. Short of fever, too, the skin may, as an organ of excretion, be implicated, the virus itself, or some by-product or micro-organism, being therein deposited. Whether the fever which ushers in the cutaneous manifestations be well or ill marked, or not noticed at all, the exanthem is the proof of constitutional infection. But before considering these eruptions, something must be said about the periods into which syphilis, as a whole, has been divided.

The views of Ricord are still popular, and the separation into a primary, a secondary, and a tertiary epoch must have some foundation in fact, else it would not have held its ground so long and so successfully. It is convenient to speak of the chancre and the glandular enlargements in its neighbourhood as primary; the eruptions occurring on the skin or mucous membranes during the first months after incubation, the seborrhœa and alopecia, as secondary; while the tertiary include all those of later periods involving the deeper tissues, and leaving traces of their destructive nature permanently in the skin. Further observation has proved that these deeper lesions may appear early in the chain of sequences, the so-called tertiary may be mixed up with those accounted secondary, while a recurrent papular rash, many years after acquisition of the disease, is precisely similar to one developing within a few months of infection. While, therefore, the terms have lost the fixed signification attached to them once, they are valuable within certain limits. The earlier in the disease the more superficially, the later the more profoundly, as a rule, are the products of syphilis deposited. Again, though the mass of infiltration is less in each, the number of the elements is greater in the early period, the eruption is more universal, and is removed without leaving marked or permanent destruction of tissue. In the later the mass is greater, but chiefly limited to special regions, and its results, after its disappearance, are observable in the parts affected. Nor is it perfectly correct to make treatment the test,

to assume that the early and symmetrical eruptions are removable by mercury and uninfluenced by iodine, while the later and deeper disappear when potassium iodide is given, and are injuriously influenced by mercury. Exceptions to this, and modifications, are common. The cutaneous symptoms of the early or symmetrical period—that in which the blood and other fluids are diseased—would probably all spontaneously vanish in course of time without specific treatment; while the late or tissue or tertiary lesions persist and extend unless suitable measures are adopted.

We must in fact regard syphilis as progressive, though exhibiting periods of latency, the duration of which is indefinite. Its progress, however, may in any particular instance be arrested at a certain point, and from thence onward no further evidence of its persistence within the organism may, during the life of the individual, be manifested. The more common sequence of the eruptions will be the one followed in describing them.

The syphilides present themselves under various typical forms, whose essential character is expressed in the majority of the elements seen in the particular case. At the same time polymorphism may be exhibited by the co-existence of transitional or related elementary lesions. The type eruptions are—

I. The macular syphilide.
II. The papular.
III. The pustular.
IV. The tubercular; and, resulting from the retrogressive changes in the two last—
V. The ulcerative.

Why in each case the special elementary form appears by preference we are in most cases unable to explain, any more than we can the determination of the primary form in skin diseases in general. Not merely the structure of the skin in the individual, but variable conditions of health, of age, and environment influence the selection, and the problem is one too

complex and the data too unreliable in most cases for complete solution.

(1) The *macular syphilide* may be preceded by a uniform red blush, which in fading leaves behind isolated blotches. These vary from the size of a grain of linseed to that of the finger-nail, when quite recent are not elevated above the level of the skin, and do not fade entirely on pressure, so that they are not purely congestive, but are partly infiltrations. Their colour is neither quite uniform in every case, not over the macule itself. They vary from a delicate rose to a pale violet or a dusky bluish red, or even a brownish red. The central part of each is the deepest in hue, fading somewhat towards the periphery.

Their surface is smooth and does not desquamate. When the body is warm they are less distinctly defined, but any sudden cooling, as the removal of the clothes, renders them more pronounced. Not only may we find interspersed among them some of the second variety—the papules—but occasionally the centre of a spot may be considerably elevated; either condition can be called a maculo-papular syphilide.

Only a few are seen at first, but their numbers increase rapidly, so that in a week their complement is attained. The front of the trunk and the abdomen are the sites where they are chiefly located. In a single case which I saw in Hamburg, in the practice of Dr. Unna, the macular syphilide appeared first on the back, and was exclusively located there on the one occasion on which I had the opportunity of examining him. This position, removed from the personal observation of the patient, may serve to explain some of those cases where no rash has been noticed. In more extensive eruptions the flexor aspects of the extremities may be covered, extending down to the palms and soles, though the backs of the hands and dorsal portions of the feet usually escape, and the face is not often invaded. In severe examples no part of the body is free. Such are commonly persons of dissipated lives, or otherwise unhealthy. They occasion no subjective sensations. When this form of

eruption recurs, the maculæ are large and livid, or are crescentic or annular.[1] This recurrence may be in the cycle of the tertiary period. The duration of the macular syphilide as such is variable. It may continue but a few days, more often it persists for several weeks, or it may last for months. The longer it continues the more distinct the subsequent pigmentary staining. This is the only change in the skin commonly observable in its course, though sometimes minute papules may occupy the places from which it has faded. On the scalp, too, the epidermis and the sebaceous glands suffer in nutrition and function, seborrhœa is produced, and the hair not merely of the scalp, but of other hair-bearing parts of the body, may fall off, leading to marked thinning and even temporary baldness. On the scalp the loss of hair is often disposed after an irregular fashion, imparts a patchy appearance, and resembles, indeed is sometimes mistaken for, that which succeeds an attack of erysipelas.

When the characters described are borne in mind, there should be little difficulty in recognising the macular syphilide from the objective symptoms, all the more readily, too, because in most instances there are additional evidences afforded by the state of the glandular system and the throat. There are, however, cases in which no chancre or trace of one can be found, and others in which there is no evident enlargement of the cervical glandular chain. In some of these the chancre is an urethral one, and is masked by gonorrhœa. In women the infection may have been communicated by the semen,—for the time, at all events, the eruption may be all that can be observed.

As a rule it may be said that other skin diseases are more frequently mistaken for a macular syphilide than the reverse. In examining a doubtful case, the influence of a cool atmosphere in recalling a macular syphilide which has apparently faded should be borne in mind. The dilated vessels are slow in returning to their natural tone, thus the cold, while it drives the blood from the sound skin, causes it to stagnate in the

[1] *Wilson's Portraits*, A Q.

debilitated parts where the patches were. The colder the room the more distinct the difference. Those eruptions which arise from the use of some medicinal agents may cause confusion, and particularly the so-called copaiba rash, since this drug may have been administered for a real or supposed gonorrhœa. It, however, resembles urticaria inasmuch as itching or burning sensations accompany it, and it localises itself in parts where articles of dress press, or on regions of the body where the skin is otherwise irritated. Tinea versicolor assumes in many cases a very symmetrical distribution, and like the syphilide seldom attracts notice subjectively. But the microscope affords here an unfailing test; only in persons who bathe much the fine branny scales of the parasitic affection are less evident. The recurrent ringed form of the syphilide is at times slightly scaly. This may also be distinguished from ringworm of the body by a search for the parasite, and by the occurrence of itching in the latter. Of all skin diseases, however, that known as pityriasis rosea, maculata, or circinata, presents the closest resemblance to the syphilide. It affects the part of the chest and back between the scapulæ, though it may be seen also in other situations. It commences as a small rose-red spot, which in extending becomes a circle or crescentic ring enclosing a fawn-coloured and slightly scaly area. It itches little, tends to recur repeatedly, and the scales show no fungoid elements. It is purely a local disease, and all constitutional disturbance is awanting. Mr. Hutchinson[1] has related a number of cases in which a rash, consisting of brownish patches in some cases, of patches more like erythema in others, well defined, and slightly furfuraceous in their later stages at least, occurred on the trunk and extremities. In many of these instances the sufferers had been wearing new unwashed and soft flannel vests, and the eruption disappeared when silk was substituted, and a tar lotion employed. In doubtful cases, therefore, the influences of the underclothing must not be left out of consideration.

[1] *Syphilis*, 1887, p. 272.

(2) *Papular syphilide.*—Scattered throughout the blotches of the macular syphilide we may find papules, due to an increase in infiltration. This is but an exemplification of polymorphism. The first cutaneous manifestation may, however, assume the papular form, or, what is more frequent, papules appear after the roseola has faded, or take their origin in the macule. The evolution of papules is usually preceded by some rise of temperature. The character of this eruption is by no means constant, but variations in the size of the individual lesions have led to a division into a small and a relatively large papular syphilide.

(*a*) *The small papular syphilide* varies individually from a pin's-head to a linseed in size, feels hard and shotty, and has a tense and rather shining surface. Though bright red when recent, their tint changes and soon becomes a brown or dusky purple. In shape the papules are conical or roundish. Numerous over the breast, shoulders, arms, and abdomen, they are more thinly scattered on the back and lower limbs. This cannot be regarded as one of the more frequent eruptions, and is held to indicate a rather severe type of infection or of the disease.

The papule consists of a well-marked cell infiltration, which, however, affects mainly the superficial layers of the skin. In consequence the papule does not entirely fade under pressure, and its involution is a slow process, leaving behind pigmentation for a considerable space of time, and finally a minute shallow depression, which may in the majority of cases be entirely obliterated in course of years.

The small papular syphilide is more common as a recurrent eruption within the first year of infection than as an early rash. In this relapsing form it is seldom general, but is limited to one or a few localities.

(*b*) The *large papular syphilide* quite commonly succeeds or develops out of the macular. It may also arise from the small papular by gradual increase in size, or may be large from the

first. It varies from the size of a grain of barley to a pea, or somewhat more, and, though distinctly elevated, the elements are usually flattened on their surface. The colour is ham red at first, passing with age into a more dusky shade. The eruption is pretty uniformly distributed over the body, the face not escaping. There is often a row of papules close to the margin of the hair on the forehead, to which the name of *corona veneris* has been applied. It is pretty copious on the nape of the neck and over the lower part of the abdomen.

A rare and peculiar arrangement is the *corymbose*, in which a number of small papules are set with tolerable regularity round a large one.

At other times a papule increases circumferentially, while it becomes somewhat depressed and fades in the centre, and this process of involution may proceed so far that a ring is produced, which encloses either a pigmented area or normal skin. When scales form on this ring of infiltration the resemblance to an annular psoriasis is very close.

When the papular syphilide as such begins to retrogress, the redness and infiltration not only diminish, but, from a shrinkage in the papule itself, combined with the persistent alterations in the corneous layer, due to imperfect nutrition, the surface becomes scaly. The papule lessens in extent, though slight but perceptible desquamation persists after the prominence has disappeared. Indeed in some instances the amount of scaling may be so considerable as to constitute in itself the most prominent symptom, so that, though a mere phase of the papular, and generally of the large papular syphilide, one might almost call it a *scaly syphiloderm*, and mistake it for a common psoriasis.

Should the redness and infiltration continue for some time, there is transudation of blood pigment, and the colour under the scales is a dusky reddish or purplish brown. Even after desquamation has ceased the spot formerly occupied by the papule remains visible as a brown or greyish macule, which

fades very slowly. A still further absorptive process may take place, and the normal cutaneous colouring matter be in time removed, and the part look whiter than the natural tissue round —a pigmentary atrophy which may last for years.

On the contrary, the papule in some cases progresses further in development, so that a vesicle or pustule appears on its apex, giving rise to a mixed papular and vesicular or papular and pustular syphilide.

In other cases the epidermic hypertrophy may be accompanied by overgrowth of the papillæ, imparting a somewhat warty look to the lesion, the surface assuming the appearance as if dusted over with some pulverulent material. This has been termed the *vegetating papular syphilide*, and as such is found on the trunk, but particularly near the side of the nose. In the latter situation a viscid secretion, partly exudative, partly sebaceous, accumulates, and originates the *crusted papule*. The same state is found on the hairy scalp and in the beard. In one remarkable case the eruption on the face, backs of the hands, and wrists underwent this change. On the face the warty growths were flat, though considerably raised, and were surrounded by a red areola. On the hands and wrists they were very prominent, some even half an inch high, yellowish, and encircled by pigment. On the legs, thighs, and nates were ordinary papulo-squamous lesions, accompanied by intense pigmentation.

From the thickening associated with the papule, fissures may form near the mouth, or over a joint, should one be situated there.

Locality exerts a remarkable influence in modifying the large papular syphilide. On hairy parts, as on the *scalp* and in the *beard*, a recurrent papular rash, from the absence of general constitutional symptoms, may be difficult of diagnosis. On the *scalp* the papules are flat, transfixed by a hair, and during retrogression are excoriated on their surface or bear a crust, and not infrequently leave a scar. More or less seborrhœa and falling off of the hair accompany them. In the *beard* the papules

are large and conical, and are seated round hairs. Unlike sycosis, however, there is no purulent secretion. They are firm and painful, and run a protracted course.

The papules may affect the *palms* and *soles*, and owing to some peculiarities of the skin in these situations, the aspect assumed is different from that on the trunk and extremities. The horny layer of the epidermis is here so thick and so opaque that the papules are flattened and more brownish red, though tolerably dense in consistence. Each papule is isolated at first, but may from gradual extension coalesce with others, the tendency of the syphiloderm to take on the crescentic arrangement being also here expressed, and there may be well-defined areas of infiltration somewhat linear and circular, including a more or less normal part, or an irregularly diffused infiltration, made up of aggregated papules, bounded towards the sides of the palm or in the direction of the wrist by a series of ill-defined curves. In course of time desquamation in scales or flakes occurs, when the redness and thickening have become less, and, because the skin is here so intimately and firmly united to the fascia beneath, morbid processes seem to last longer when once initiated than elsewhere. Pressure, as of the walking-stick on the palm, or the shoe on the sole, may contribute to this long persistence. Hence the desquamative stage may continue after all trace of the papules elsewhere has disappeared, and so it has arisen that this condition has been termed plantar and palmar syphilitic psoriasis, —an epithet calculated to mislead. This localisation is much less common in Britain than on the continent of Europe. At an early stage, and concurrent with the large papular syphilide elsewhere, it is symmetrical; but a late manifestation presenting few patches is commonly unilateral. The entire palmar surface may be converted into a brownish-red, smooth, dry, and occasionally fissured area. It is this form which is apt to be confused with the dry chronic eczema met with in the same situation, and which is much more frequently encountered here than abroad.

In all the situations which have hitherto been mentioned the papule remains dry, but when it develops on a part which, from its anatomical position, is exposed to abundant cutaneous secretion, its character alters. Such places are those in which two surfaces come closely in contact, as beneath the pendulous mammæ, or between the toes, or in parts from which air is readily excluded, while in themselves largely furnished with glands, as the umbilicus, axilla, perineum, scrotum, groin, or in the meatus of the ear, should there be otorrhœa. If the element of uncleanliness be added, this metamorphosis of the papules will be the more certain. In children, too, the natural delicacy of skin predisposes to this transformation, so that it is common in inherited disease. Under such circumstances as those enumerated, the *moist papule, condyloma, or mucous patch* is produced.

In size these are often much greater than the dry form. The enlarged papule rises sharply as a rule from the sound surface round it. If recent, it exhibits a more or less lively red colour, and feels and looks soft and velvety. The papillæ of the skin, freed from restraint, grow more luxuriantly, and either protrude as little red points from the swollen inter-papillary cones, or are entirely covered over with a whitish, soft, macerated epidermis. The general aspect may be compared to that of a flattened raspberry, and from them a dirty, thin, sour-smelling pus is more or less abundantly secreted. When they have lasted some time the reddish colour is replaced by a dusky bluish tint, while the surface becomes drier.

Here, too, the tendency to form plaques of extensive areas by the coalescence of numerous papules is shown, a moist-secreting surface like plush in its general appearance being formed. Apart from this peripheral increase, a process resembling auto-inoculation may occur, condylomata being produced apparently as a result of contact on opposite surfaces. The moist papule may outlive the co-existing eruption on other parts.

Though subjective sensations are more frequently complained

of in association with the papular than the erythematous syphilide, still these are seldom obtrusive. Some degree of itchiness may be experienced in the desquamative stage of the dry papule, and fissures and ulcerations which may accompany the mucous patch, especially when near the anus or between the toes, are painful, indeed may cause acute suffering.

Since the papular eruption commonly coincides with a later stage of syphilitic infection than the erythematous, the initial sclerosis of the chancre may be no longer observable; but there may still be found affections of the mucous membrane of the mouth and fauces, or such an affection of the eye as iritis, or persisting enlargement of the lymphatic glands. These are aids to diagnosis, yet it is certain that this form of specific eruption is very liable to be mistaken for various skin diseases unconnected with syphilis.

Psoriasis and the large papular rash may be confounded. In cases of doubt the elbows and knees should be first examined; since, while these are the localities where psoriasis first shows itself, and where even in extensive cases it can usually be still found, the papular syphilide, when it has advanced to the squamous stage, as a rule avoids those parts. Should the elbows and knees not afford decisive evidence, examine the scalp for traces of psoriasis there.

Psoriasis affects by preference the extensor aspects, though it is not confined to these; the syphilide the flexor, rather more than the extensor. The palms and soles are only attacked in widely spread psoriasis, and then over large areas, the nails being transversely furrowed and discoloured. The amount of scaling in psoriasis varies in individual cases, but the scales themselves exhibit a more or less silvery lustre, and are heaped up into masses which can be pretty easily detached. Beneath the scales is found the membrane described by Bulkley and Lang, and when this is removed there exude from minute points tiny drops of blood. The scales in the syphilide are thin and dirty white. In anæmic persons, or in those whose hair is reddish fair, with

thin transparent skins, the colour of the eruption in psoriasis very closely corresponds with that of the syphilide when recent. Only in brunettes, or in obstinate inveterate cases, does pigmentation remain on spots where the psoriasis patches have been. When treatment by chrysarobin or Goa powder has been employed, the patches themselves are apt to leave an unpigmented area, which again is surrounded with increased staining. Finally, the history may be relied on to check the evidence from physical signs. In psoriasis there will be a statement of previous outbreaks, the commencement being traced back to youth or childhood. To this there are indeed certain exceptions, since psoriasis sometimes first appears late in life, but such are rare. It is of consequence that psoriasis be not mistaken for a syphilide. Greenough[1] reports a case where this was done, and mercurial treatment of an active kind instituted, more than once, to the manifest detriment of the patient.

There may be considerable difficulty in the diagnosis between a widely diffused lichen ruber planus and the small papular syphilide, though this is chiefly felt when the syphilide is somewhat late in appearing, and the earlier general symptoms have partially or wholly faded. In lichen the papules are dull crimson red, smooth, flat, and often arranged linearly. They have a central depression, and though they may individually vary in size, the character of the entire rash is uniform. Even when they tend to become aggregated into patches, there are still isolated papules discoverable near the margins. The patches and papules of lichen planus assume a brownish hue in course of retrogression, and leave dark pigment stains after their involution. When merely pigmentation remains there may be some confusion with the so-called pigmentary syphiloderm, but in most cases the latter chiefly or exclusively affects the neck.[2] The corymbose variety of the papular syphilide does present a rather marked resemblance to lichen ruber. The papules of lichen may be

[1] *Boston Medical and Surgical Journal*, September 10, 1885.

[2] Lavergne, *Lichen planus*, 1885.

found on the palms. Their evolution is accompanied with itching, often pretty severe. Much value is to be assigned to the polymorphism present so often in the one, the syphilide, and the uniformity of lesion in lichen, in which the sole lesions present are the individual papules and the patches formed by their aggregation.

Eczema of the palms is seldom mistaken for the earlier form of papular syphilide attacking those situations, but when this is the only lesion perceptible there is often difficulty. It is more, however, in the direction of supposing the eczema to be syphilis than the reverse. In eczema the disease is most aggravated at the centre of the patch, less so at the margins. Both hands are usually though not in the same degree affected, and the patient—in three-fourths of the cases a female—is apt to be neurotic, dyspeptic, or gouty. In eczema, too, there are usually itching or burning sensations. In syphilis in this locality the tendency to spread at the periphery and heal in the centre is often well marked. In cases of doubt a trial should be made of Unna's mercurial plaster muslin: a piece of this worn on the eczema will do no good, or rather aggravate it, while the syphilide will improve.

The little tumours of molluscum contagiosum have been mistaken for a syphilide in some cases, but these are rounded, dense, firm, warty-like growths, which rise abruptly from the surface, and have a depression in their centre, from which some whitish fluid can be expressed. An aspect of polymorphism may be assumed when one or more of these inflames, but there are no constitutional symptoms.

When the papular syphilide occurs in one or two patches of eruption only, the diagnosis from lupus is at times not a simple one; since the nodules of lupus sometimes are studded in groups and circles, and in appearance, course, and localisation may imitate the syphilide very closely. Kaposi recommends in such cases to take time for determining, and points out two characteristic features which are valuable in coming to a con-

clusion. One is, that the large lupus nodules do not exhibit the symptoms of regular progressive involution from the centre to the circumference. The other, that in lupus young deep-seated nodules can be discovered, declaring the origin of the growth in the corium.

A papular syphilide may be masked by the co-existence of some other skin disease. Thus a severe scabies once quite obscured a developing large papular syphilide; with the cure of the scabies by storax the syphilide became unmistakable.

One of the eruptions which arise on the skins of those engaged in extracting the alkaloids from opium in the manufacture of morphia resembles the large papular syphilide. A man, aged fifty-five, so employed, came on 10th November 1888 to the Royal Infirmary. He had, when in India twenty-two years before, a sore of some kind on the penis, and had suffered severely from endemic boils, the scars of which still disfigure his face. On the forearms, neck, and forehead, arranged symmetrically and in a circular manner, are flat, smooth, brownish-red papules, some the size of a split pea, some smaller, but only elevated about a line. A few bore thin scales. They faded entirely when treated with calamine lotion, and cessation of his occupation. He was positive that his symptoms were due to his trade, for he had some years before a precisely identical rash.

CHAPTER XXXVII.

SYPHILIS AS AFFECTING THE SKIN AND ITS APPENDAGES—*continued.*

(3) *The Pustular Syphilide.*—This admits of three degrees; a small, a large, and that variety known as rupia. In all forms of skin disease the transformation of the infiltration into pus is regarded as more unfavourable, as regards the individual and the diseased condition, than a retrograde metamorphosis of an absorptive kind, and this holds good also of syphilis. The papule here also is the basis, and the purulent change may involve this to a greater or less extent. Most favourable, therefore, are those cases in which only a small and primary part of the papule becomes purulent, when the process does not extend further, the remainder becoming absorbed. Most unfavourable are those forms in which the suppurative alteration follows closely on the advancing or extending papule formation. The existence of a pustular syphilide is, in proportion to the suppuration, an evidence of a naturally bad constitution, or of one severely impaired by the dyscrasia, occasionally of a peculiarly bad type of disease in itself.

The *small* and *large pustular syphilides* may be looked on as further developments of the corresponding papular eruptions. In general a few pustules can be found scattered through the papules, just as these are intermingled with the erythematous rash. But pustules may so predominate as to constitute the one marked feature of the case. As already mentioned, the purulent transformation of the papule may be but partial, or

may involve it to its base. In either case the pus dries into a crust, which, when it falls off or is removed, shows a superficial ulcer. When this heals, it leaves a scar, though not necessarily a permanent one. The pustule is surrounded by an inflammatory halo, which on its disappearance is replaced by some degree of pigmentation. Pustules occur frequently on the head, and cause loosening or even permanent loss of hair.

Sometimes the pustular development is rapid, and the course of the eruption an acute one; more commonly it is slow, since the infiltration becomes purulent by degrees and gradually. In the one case the pustule is acuminate, in the other flattened. The ulcer beneath the crust is usually a little excavated, and leaves a depressed scar. Occasionally, however, granulations spring up exuberantly from the base, and then the resulting cicatrix may be elevated.

The pustules are not distributed with any regularity; they may be comparatively few in number, or closely set over large areas. This form of eruption may occur early in the syphilitic infection, or as a recurrent rash at a later period. When early, its onset is accompanied by fever, and should the pus formation be considerable or the rash plentiful, this may be very well marked. The large pustular is more unfavourable than the small, and though more difficult to remove by treatment than the corresponding papular rash, it yields more readily than the small pustular, which, like the small papular, is obstinate.

That variety of the pustular syphilide known as *rupia* is seldom associated with other eruptive forms, and indeed exhibits a well-marked clinical type. In rupia the infiltration is more extensive than deep, liquefactive and purulent changes taking place in it, so that the epidermis is elevated as a bulla, from a quarter of an inch to more than an inch across. This bullar stage is not a long one; the bleb dries into a crust, but the formation of pus beneath does not simultaneously cease. The inflammatory area around extends, and by so doing furnishes

a larger space and material for pus formation, which the portion covered by the crust continues to secrete. In this way the central and earlier formed scabs are continually being raised up by fresh accretions from below, while they at the same time dry and shrink. The mass thus assumes a more or less pyramidal aspect, built up of successive strata or flakes of crust. The resemblance to a limpet shell is an old and well-founded comparison. The pile is of a dirty greenish-black colour, with a red and somewhat scaly ring surrounding it. So long as this reddened infiltrated area persists round the rupia crust the progressive advance of the purulent metamorphosis is not arrested. Should the scabs be forcibly removed, there is exposed an ulcerated surface covered with a thin layer of pus.

When the areola begins to become pale, the infiltration has ceased to undergo the purulent degeneration, and healing commences. Cicatrisation begins in the centre, where the earliest manifestations of the disease were shown, and there may now be seen a circular trench-like ulcer enclosing a film of recent epidermis, which latter advances outwards till healing is complete. The scar is at the outset filmy, somewhat wrinkled and bluish red in colour; it grows gradually paler, acquiring at last a glancing white appearance.

Rupia may be limited to a single cockle-shaped crust, or there may be many isolated ones scattered over the body, or it may occur in association with the large pustular eruption. Its course is a protracted one, fresh spots—papular at first, then bullar—coming out for a long time, until large areas are involved, one crust with its areola encroaching on another.

Though it has been looked on as a late eruption, it may occur so early as seven months to a year after infection.[1] Its early manifestation must be considered as indicative of a grave form of disease. In this respect it may be compared with ecthyma, a pustular eczema in broken-down persons, or with

[1] Payne, *Trans. Pathological Society of London*, 1885.

varicella gangrænosum,[1] or with some of the more malignant varieties of pemphigus.

Though in general it is not very difficult to decide on the specific nature of a pustular eruption, still there are certain skin diseases which are simulated at times pretty closely by the syphiloderm.

One of these is varicella. The vesicle of varicella exhibits the peculiar structure known as the pock, a chambered vesicle presenting a central depression, with a degree of general flattening; and the succeeding pustular stage shows also the same character. In the form of pustular syphilide which resembles this the vesicle remains transparent for a week or ten days, then becomes a true pustule. In varicella the cloudiness commences on the second day.[2] Varicella, too, appears in successive crops; the areola is of a brighter pinkish red, and slight in degree; it fades much sooner than the inflammatory halo round the syphilide. Itching is more or less prominent in chicken-pox, but is seldom complained of in the pustular syphilide. It is only at first that there can be any difficulty, for with the lapse of a few days, in all but exceptional cases, the varicellar eruption will have run its course, while the syphiloderm is much slower in progress. The exception is that rare form of varicella where the lesions become gangrenous and form pit-like ulcers, while fresh crops of eruption may prolong the disease for weeks. In such cases a temporising policy should be observed; it is better to assume the presence of the milder than the more formidable ailment. Feverish symptoms are met with in both, but the pyrexia is less and does not last so long in varicella. Varicella, it must be mentioned, may leave white scars which closely resemble those which succeed a mild pustular syphilide.

Acne is also simulated by syphilis; not, however, the ordinary acne associated with comedones—a disease generally of puberty or youth—but that form of acne which affects adults, and almost

[1] Hutchinson, *Lettsomian Lectures*, 1885.

[2] Liveing, *Handbook of Skin Diseases*, Fifth Edition, p. 55.

exclusively the face and back of the neck in them,—acne varioliformis, or lupoid acne, as it has been called. There are in this variety no comedones. The pustules are flat-topped, slightly raised, and bear a small crust with a relatively large amount of erythematous induration. On the forehead, where they are most commonly located, they extend among the hair; they may be numerous or solely present on the nape of the neck, are less numerous, and may be absent, on the cheeks and nose. On the forehead the pustules may run together into patches. The person affected may be out of health, but there is an entire absence of any constitutional signs of syphilis. The pustules of this form of acne leave depressed punched-out cicatrices.

Rupia may be confounded with ecthyma, the pustules of which are large and angry, but the areola has never the ham-red induration seen round rupia. Beneath the crust of ecthyma may be found a superficial abrasion, never an ulcer, and merely a macule, not a cicatrix is left. The same may be said of a serpiginous pemphigus, but in it the crusts are more thickly piled up.

Rupia instead of coming to an end with the formation of round scars, may pass into a chronic phase, in which the eruption spreads serpiginously, resembling the serpiginous gumma.

(4) *The Tubercular Syphilide,* or *cutaneous gumma,* has been assigned to the tertiary stage of the disease, and though in general a late manifestation, it is not altogether uncommon to meet with tubercles, not merely early in the process, but even as a first eruption. Gummata may therefore be recurrent phenomena, or may show themselves primarily. They occur in two forms—one the superficial gumma, having its place in the true skin; the other the deep, originating in the subcutaneous areolar tissue. The lesions previously described present the characters of irritation, and as a rule when they disappear leave no visible trace behind. To this the pustular syphilide is in many cases an exception; but gummata, whether they terminate by resolution or ulceration, are followed by cicatrisation. Thus the

syphilitic tubercle is a much more serious affection than those already described. It may be painless throughout, or may be accompanied by sensations characterised as boring or tearing, and aggravated at night.

The *superficial gumma* appears as a circumscribed hard elevation of the skin, from a pin's-head to a pea or somewhat larger in size, round or flattish, of a dull red colour, which alters into a purplish tint. When it has lasted some time, it becomes softer and feels more elastic. Its course is commonly slow. From its situation in the true skin, it seldom acquires a great thickness. Nutritive transformation is imperfect in the tubercle, and thus retrogression occurs earliest in the centre. Under the most favourable circumstances interstitial absorption takes place, but leisurely. This advances till the area occupied by the tubercle is transformed into a depressed scar, which, yellowish in the first instance, only turns white in course of time. The hyperæmia which had existed round it can be traced for a long period as increased pigmentation. It is possible, however, that restoration may be so nearly perfect that little if any trace in course of time remains.

More frequently the tissues break down and ulcerate, the loss of substance being sharply defined, and covered with a thin but dirty crust. The superficial gummata are usually multiple, and may be so closely set that their individuality can be with difficulty recognised, an extensive region being uniformly red and scaly.

When recovery has taken place, the skin seems as if it were sown with depressed scars of various sizes, the intervening parts being yet darker than normal from unabsorbed pigment. In certain individuals, or when the procedure is of long standing, there may be papillary hypertrophy at the base of the ulcer, which then has a raspberry-like aspect. The process here resembles what occurs in the papule when a moist papule or condyloma arises. Here, however, the vegetative development may occur in situations where no macerating influences are at work, as on

the chin or cheeks, where the resemblance to sycosis may be so close as to lead to confusion. There is, however, in syphilis a hard, painful, and sometimes deeply ulcerated infiltration, which forms the margin and base of the papillary growth, conditions which are absent in sycosis. Horse-shoe like ulcers, too, are often discoverable at the edges of the diseased parts in syphilis.

The following cases illustrate the appearances presented in the opposed conditions.

115. M. M., thirty-five, a broken-down though strongly-built man, much addicted to alcohol, and with a weak heart. Has had gonorrhœa once or twice, but was said by a medical man, who brought him to see me, to be thought free from syphilis. After a somewhat prolonged bout of irregular living, six months since, he was annoyed by an eruption of boils. About this time, too, he was shaved by a village barber, but the history was defective as to the connection between this and the disease on his chin about which he consulted me. On the right and left sides of the chin are fungating growths covered with crusts, and from which pus can be squeezed. These have extended from the centre, which has cicatrised, and the most recent margins of the raspberry-like prominences are crescentic. The hairs examined were free from parasitic elements. A sulphur and creasote ointment was prescribed; the hairs to be epilated, and 10 grains of iodide of potassium to be taken thrice a day. Six weeks later the right side had entirely healed, and the left was nearly so. There can be little doubt that this was an example of syphilis, though the starting-point of the local lesion may have been due to some injury in shaving. The following is an instance of sycosis resembling it.

116. A sailor, a Prussian by birth, who denies having had any venereal disease, or having been addicted to intoxicating liquors. The disease he suffers from began inside the nostrils, as pustules round the vibrissæ, and extended to the moustache. Only the central part of this latter was for long affected, but

the disease extended in time to the left cheek and to the chin, and finally beneath this also. It has lasted in all four years. He was never shaved by any one—wore a full beard. The lip was swollen, covered with thickly aggregated pustules, and in part quite denuded of hair. Beneath the chin are spongy swollen patches, red and very tender, and exuding pus. A larger bald patch on left cheek, also red and inflamed. He was directed to shave, and apply zinc oxide glycerine jelly, with twelve per cent of sulphur, and cover the jelly with absorbent cotton wool and bandage. In course of three weeks nearly all swelling was gone, skin bears pressure without pain. The fungating parts are dry and smooth, and though the skin is still red the redness is paler than before. He was seen again in the autumn of 1889, several years after the period described. He had continued well, and though some bald spots remained, the hair had re-grown to an extent hardly to have been hoped for.

Starting from one or several points, the gummatous process may stretch like an advancing wave over considerable portions of skin. On one side the linearly disposed tubercles heal and cicatrise, on the other the diseased process is projected forward into new ground, a mode of advance known as the serpiginous. Here and there portions of skin escape, and should those be covered with hair they may eventually appear as islets, which seem out of place in the new scar tissue.

The *subcutaneous gumma* is less frequently multiple, and destroys more deeply than extensively. It is either at first and for some time quite below the skin, which may be freely movable over it, while the nodule itself seems firmly attached to the fascia below, or it may appear fixed to the skin, and little adherent to the subjacent structures. The surface is in the early stage of a normal colour. The prominences vary in size from a bean to that of the fist in extreme instances. As the tumour enlarges the skin becomes more tense over it, and may be even œdematous, but this tension relaxes, and the centre first, and finally the entire growth becomes softer. The impression now

conveyed is that of fluctuation, the deception being sometimes so complete that an exploratory incision has been made under the supposition that an abscess had formed. No pus escapes from the puncture, merely a little glutinous fluid, not unlike mucilage, and a few drops of blood. It is from the presence of this gum-like fluid that the term gumma has arisen, which name has been in time extended to all semi-solid syphilitic tubercles. Since therefore some are scarcely properly described as gummata at all, von Esmarch would substitute the term syphiloma. The colour of the deep gumma is dull red or reddish violet when fully formed.

Resolution may take place in the deep as in the superficial tubercle. In proportion as the gumma has advanced further, or been arrested earlier, so will the final result be more or less damaging, and a depression remain covered with atrophied and whitened skin, at first encircled by pigmentation.

The more common termination of a gumma, however, is ulceration. The softening and disintegration of the gumma in time implicates the skin which covers it, till this in the end gives way and lays bare the necrosed tissues, from which a thin sanious and puriform secretion exudes. We have now an ulcer which presents peculiar and usually distinctive characters.

The ulcer seems, as it were, a loss of substance punched out of the skin, with a thickened margin of a livid red colour. Its floor is formed of dead tissue. In proportion to the rapidity with which it has formed, the secretion is abundant or scanty. Though for a time the ulcer may enlarge, its increase is at length arrested, and its floor rises, so that it no longer has the same sharply cut edges, but shades off more gradually into the parts around. Healthy granulations spring up, and the sticky secretion is replaced by ordinary pus. When cicatrisation is complete, a flat, or perhaps rather a prominent scar is formed, surrounded by a brown halo. The resulting destruction of tissue is not so great as would have been expected from the size of the ulcer. We must remark that we have here to deal with

a new growth, and much of the sound tissue had been merely pushed aside, and when the new formation had broken down this gradually recovered its place. This is, however, modified by two circumstances; one is situation. When deep gummata attack parts where the skin normally is very tightly stretched, or over bones, the deformity which ensues may be indeed distressing. In the other case, where the individual affected is naturally weak, much impaired in health, or strumous, or should the true nature of the disease be mistaken[1] or ill managed, it may spontaneously spread or be permitted to spread extensively, leading to unfortunate disfigurement or danger to life. When the process has finally come to an end, and healing has been perfected, this is usually permanent on the spot which had been diseased. The gumma, when it persists long, may undergo a tubercular or a cancerous degeneration, but this, the latter particularly, is rare. Their possible occurrence is another argument for the prompt and careful treatment of the original disease.

Although gummata in either form are not frequently met with during the epoch of the symmetrical and inflammatory eruptions, yet it would be an error to state that these are never consentaneous. The stage in which gummata appear and that in which papules are present must not be regarded as opposed. The co-existence of such manifestations is more often seen in hereditary specific eruptions, where an irregularity in sequence is tolerably common. Still gummata are seldom encountered in the first month after infection. They are somewhat more frequent in the first six months, and in the five years which succeed the primary sore are most apt to develop. From this time onward the tubercular lesion becomes rarer; yet it is well authenticated that such may manifest itself even after an apparent immunity of forty years. How can we explain this dormancy? If there be a specific micro-organism, this may, like that of malaria, sleep in the tissues, potentially, not actively

[1] See Volkmann's *Sammlung klinischer Vorträge*, No. 273: "Ueber Syphilis hereditaria tarda."

present, capable of causing or initiating local destruction, but not inoculable, though locally infective in the individual himself.

While recurrent phenomena, implicating the skin and mucosa in association with the gummata, are decidedly unusual, deeper seated ones are not so, as of the bones, throat, and nervous system. And so, though in general gummata are to be regarded as tissue lesions rather than as distinct evidence of persistent blood contamination, still their evolution must be looked on as ominous, since their occurrence in the skin may indicate weakness elsewhere, in situations where a breaking down of tissue might occasion much more serious consequences than disfiguring scars. The most common habit of body associated with gummata is, in my experience, alcoholism, but any depressing influence may favour their production, and some local injury, friction, or strain determine their situation.

The diagnosis of the tubercular eruption is sometimes comparatively easy; at others an opinion cannot, and should not, be given off-hand. The small superficial gumma, which tends to resolution rather than to ulceration, if closely set, may resemble some phases of the papular syphiloderm, particularly when these are recurrent.

Cases occur where there is absolutely no history of any primary disease. Such are most common in women who have borne children, and can be explained most reasonably, and I think truly, by assuming that the infection in their case was through the fœtus, and that there were either no early cutaneous symptoms at all, or that such, if present, were slight and unnoticed. In such, late tissue lesions may manifest themselves and prove peculiarly puzzling.

While the ulcers due to the deep gumma on the leg are commonly multiple, cases occur where this is not a prominent feature, and the simulation of an ordinary callous ulcer is deceptive.

117. A man of sixty, whose occupation, though not a severe one, necessitated much standing and running up and down

ladders, came to me with a large ulcer over and above his outer ankle. It had been treated for some time by a surgeon as an ordinary ulcer of the leg, but it had continued to spread. In all respects it seemed just such an ulcer, and for some time I treated it with strapping and bandaging. This produced no effect, and one day, in the absence of his wife, I questioned him as to syphilis. He replied that he had certainly had a chancre and secondary symptoms more than forty years before, but that since then he had had no reminders. He had had several children ; all were dead except one grown-up daughter, and she exhibited no signs of past hereditary disease. Nor had the children died apparently from any specific cause. Under large doses of iodide of potassium his ulcer slowly but entirely healed, and remained well, with really little deformity. Its cicatrisation was aided by wearing an elastic bandage for a long time.

This is the least important difficulty, but there are two other processes not unlike the gumma. These are scrofuloderma and lupus.

Scrofulous subcutaneous deposits soon become soft to palpation, and cause much thinning of the overlying skin, which, left to itself, gives way at several points, and through these perforations a watery pus escapes. These apertures become larger, and may unite more or less completely into one ; but the atrophic and loose skin does not become fully attached to the granulating surface below. It folds over at the edges, and thus when healing takes place an uneven scar results—not the rule in syphilis, where the scar, though elevated, is seldom rugose.

The chief difficulty, however, lies in confusion with lupus. This has been much increased by the terminology. It is quite common to hear and read of a syphilitic lupus, meaning thereby that mimicry of lupus vulgaris exhibited by the syphilitic tubercle. The localisation and general aspect of the two processes may seem much alike, and in such a case the wiser plan consists in refraining from an absolute decision till time enough has elapsed to render this more certain. Lupus as a rule begins

in early life. It is when it has spread considerably that there is a risk of error, for the commencement of lupus is not often mistaken for syphilis; it may be overlooked altogether, or thought to be an eczema. The lupus new formation advances much more slowly, and its recently deposited nodules have a degree of semi-transparency not seen in its imitation. The scars left by lupus are in many cases puckered, and are at least not sharply defined. These succeeding gummata are circumscribed, and when pigmentation has faded, appear as white patches set, without any gradual shading off, in the sound skin. When, however, much ulceration has occurred in syphilis, the scars may be puckered, and from contraction, due to loss of substance, may drag the unaffected skin out of place. When the cicatrices are numerous, the past disease, which led to their formation, was more probably syphilis than lupus. If only one scar, the cause was likely to have been lupus. The latter, too, seldom attacks tissues other than the skin or the mucous membranes; should those be in close relationship to the part affected, syphilis penetrates deeper. The destruction of tissue affected by syphilis is at all events greater within a similar space of time than lupus occasions.

There is a form of syphilis which attacks the point of the nose, which can oftentimes, only with much difficulty and care, be discriminated from lupus of that part.

118. A woman, aged thirty-one, presented herself at the Royal Infirmary with what was thought to be lupus of the nose, No history of any primary lesion was obtainable. The tip of the nose was studded with dark reddish-brown tubercles, some covered with crusts. There was a deep red inflammatory halo round the margin of the patches a couple of lines broad, and fading into the normal skin colour beyond. In two parts the tubercles were arranged crescentically at their outer side, and on removing the crusts some trench-like ulcers were found. A similar patch existed on the cheek close to the nose. Under full doses of iodide of potassium, and the local application of emplastrum

hydrargyri, a rapid improvement took place. The disease had lasted two years, and had steadily progressed under palliative measures.

It may also, however, occur in those who have passed through the early symptoms in the usual way. The tip of the nose is enlarged, reddened, and studded with small tubercles, some of which have ulcerated, and are covered with crusts. An inflammatory halo surrounds each group of nodules. The disfigurement is complained of rather than the pain. Those so affected are seldom young; they are either in middle adult life or beyond this. In my experience women are more prone to the disease than men. Occasionally the existence of smooth white scars on the cheek or nose may aid the diagnosis.

With this may be classed a rare form of late hereditary syphilis which simulates lupus vulgaris very closely. Indeed the appearances of the disease on the face are indistinguishable, but in the inherited disease the velum palati is commonly ulcerated at some period, a circumstance which seldom happens in lupus.[1] When we can obtain a history of disease in one or both parents, or, failing this, of repeated abortions, or frequent early mortality in the children, or the evidences of inherited disease in brothers or sisters, this may assist us. The alterations of the permanent teeth, so well described by Mr. Hutchinson, which may be perhaps due, as Wolff has suggested, rather to a disturbance of general nutrition induced by syphilis than to a direct specific malformation—since the condition, though frequent, is not constant—are, when present, of valuable assistance. In the same way the traces of flattened bridge of the nose, or the hydrocephalic cast of features, are all suspicious.

The following case is an illustration of this by no means common form of late hereditary disease.

119. A. F., aged seventeen, came under my care for what was thought to be lupus of the nose and cheeks. She was a well-grown girl, but no history of her parentage could be elicited from an uncle, save that her father had been an immorally living

[1] Zeissl, *Rep. of Vienna General Hospital*, 1877.

man. Some years before she had suffered from ulceration about the soft palate, which had destroyed the uvula, and left scars about the arch of the fauces. Then the nose and cheeks became affected with an ulcerative affection. This was treated locally by scraping and subsequent dressing with boracic acid lotion, but though it healed a little, the disease soon assumed its former proportions, and extended more deeply. It did not, however, attack the bones. Under full doses of iodide of potassium it completely cicatrised.

Lupus erythematosus less frequently causes difficulty. The more brilliant red colour, the long duration, and the thin, papery, firmly attached scales, from the under surface of which fine tags or prolongations can be drawn from the dilated sebaceous glands, are all unlike syphilis. The absence of ulceration, and of any sign of past or present specific disease, is a further assistance. It must, however, be admitted that the sharply defined disc, and circular patches of infiltration which leave scars, are sometimes suggestive of a serpiginous syphilide. There is nothing to prevent the development of lupus erythematosus in those who are the subjects of a syphilitic taint, and there seems to me grave room for doubt if the instances recorded by Mr. Hutchinson as examples of the syphilitic imitation of this form of lupus are not really such.[1]

Rodent ulcer, or the superficial form of epithelioma, must also be diagnosed from the cutaneous gumma. This form of epithelioma begins as a parchment-like transformation of the skin, which looks yellowish or pale brown on the parts so altered; depressed, and surrounded by a slightly raised pearly ridge. This border is either the same colour as the included surface or it may be feebly reddened. Some dilated venules are often seen ramifying in a stellate manner from the nodule or nodules as a centre. These growths are found chiefly "above a line running from ear to ear beneath the nose, occupying the upper part of the cheek near the eyelids, or the sides of the

[1] *Syphilis*, 1887, pp. 344-348.

nose, or the temples."[1] Carcinoma of the skin in elderly people often develops out of an apparent seborrhœa, which manifests itself as multiple, circumscribed, yellowish or brownish accumulations of fatty scales. These adhere pretty firmly to the subjacent surfaces,—indeed sometimes so much so that when forcibly removed a bleeding ulcer is exposed. In this way the first break in the continuity of the epidermis is occasioned. From this a small quantity of a thin gum-like fluid exudes, which dries into a thin film or yellow crust. A gradual process of disintegration succeeds, and a tiny ulcer appears, which may be semicircular, and is included within the pearly rim. The floor of this is red and shining,[2] as if granulating, yet feels hard, and has a firm margin which tends to become broader. This ulcer does not often heal, or but imperfectly, to break down anew. This rodent ulcer can scarcely be confounded with the cutaneous gumma, unless in an early stage.

"As a general rule," says Mr. Hutchinson, "it may be said that we distinguish between a cancerous ulcer and one that is syphilitic, by observing that in the former a process of growth precedes that of ulceration, whereas in syphilis it is at best only one of chronic inflammation."[3] Rodent ulcer is not limited to the face, it may occur on the trunk.[4] I have seen a case where it existed for thirty-five years without any implication of the lymphatic glands. In that instance it was located on the back.

The gumma forms a smooth scar if it is superficial, and even when deep, should a puckered cicatrix result, the destruction is not like that of the cancerous sore.

Rhinoscleroma is of such extreme rarity that the chances of confusion are slight. The nodules composing the growth are dense, irregular, and sharply defined, and dark red in colour. They advance outwards from the point of commencement in

[1] Collins Warren, *Boston Medical and Surgical Journal*, May 8, 1879.
[2] Schuchardt, *Volkmann's Sammlung klinischer Vorträge*, No. 257, 1885.
[3] *Op. cit.*, p. 514.
[4] Thin, *Cancerous Affections of the Skin*, 1886, p. 82.

the nostril over the lip, or on the cheek, or backwards to the throat, and downwards to the gums. There may be a mistake in a partially treated case, where cicatrisation[1] has resulted from application of the cautery. In rhinoscleroma spontaneous involution and atrophy only occur after many years, and there are no features which point to a specific origin.

Eruptions in inherited Syphilis.—While the cutaneous manifestations of acquired syphilis in the infant are identical with those in the adult, those dependent on inherited taint exhibit certain peculiarities and variations. One reason is probably the mode in which the disease is transmitted. The mother frequently, too frequently to be a mere accident, manifests no obvious symptoms of syphilis at all, yet that she participates may be concluded from three circumstances.

1*st*. That she never becomes infected through suckling or handling her diseased offspring, in accordance with Colles' Law.

2*d*. That if again pregnant she usually bears a syphilitic child, though possibly a more robust infant than her earlier ones, or she may abort more than once.

3*d*. That such women occasionally develop gummatous lesions at a later period, which are deceptive, inasmuch as there may be no history of any primary or secondary symptoms ascertainable.[2]

Should such infants be born healthy, the faulty condition nearly always gives evidence of its presence within the first three months, and seldom before the second or third week after birth.

Syphilitic children vary in their general aspect at birth; some are thin, puny, and weakly, others are plump and well nourished. As a not invariable rule, the child soon wastes and pines, all the more so if artificially fed. The skin in particular loses its transparency, and becomes dingy, muddy, and yellowish, with a harsh and dry surface, while it is wrinkled and furrowed from diminution of subcutaneous fat. Its whole appearance is

[1] Lang, *Vorlesungen ueber Pathologie und Therapie der Syphilis*, 1886.

[2] Rabl, *Ueber lues congenita tarda*, Leipzig, 1887, p. 45.

that of an old man or woman, the wizened, weird look is so peculiar. At the end of three weeks to a month appearances due to a species of coryza manifest themselves, giving rise to the phenomena known as "snuffles." Yet this must not too hastily be ascribed to syphilis, as infants may suffer from eczema blocking up the nostrils, or from a persistent "cold in the head."

Fissures of the lips are early, common, and characteristic symptoms. Such are usually of the upper, and are placed symmetrically on either side of the central portion of the three parts, from the coalescence of which it is formed; on the under if present, then in the middle, where the two halves which constitute it become fused into one. Ulcers may succeed these, and on healing leave white, glancing scars, which remain visible for years, and are most valuable for diagnostic purposes.[1]

While more or less polymorphism exists, the variety of eruptions is much less than in the acquired disease. They are limited to three, separate or combined. These are—the erythematous, the papular, and the bullous.

(1) *The Erythematous.*—This is often one of the earliest cutaneous symptoms. It occurs in patches which, if discrete, present a rather indistinct outline, and by the coalescence of several the rash may invade considerable areas of skin. The colour is yellowish, or brownish red, or coppery, and the surface smooth as if varnished over. The buttocks, the thighs on their outer surface, and the genital organs, are favourite situations. In some cases the palms and soles are implicated, and look tense, deep yellowish red, and shining.

The eruption in an early stage may very closely resemble an erythematous intertrigo, or an erythematous eczema, all the more if the coryza and "snuffles" are ill-marked or unnoticed.

(2) *The Papular Eruption* seldom occurs alone, but is oftener combined with the erythematous, as the most frequent of all heredito-specific rashes, or with the bullous. The papules are

[1] Miller, *Jahrb. für Kinderheilkunde*, 1888.

broad and flat. It occupies parts which are apt to be moist, as the groin, and then readily takes on the condylomatous form; but it may also appear on any part of the general surface. Sometimes on the face the papules are ranged in crescentic lines,[1] reminding one of the serpiginous arrangement of some of the lesions in the acquired disease. Such linearly arranged groups may become crusted on the surface, and such may leave scars.

(3) *The Bullous or so-called Syphilitic Pemphigus.*—This is a severe form of eruption, and commonly manifests itself at birth, though it may come out later. The blebs of which it consists possess an affinity for the palms and soles. They are sometimes exclusively met with there; at others, while appearing elsewhere, they affect those parts also. A reddish-brown circle surrounds them. In form they are irregular, and their contents are clear, milky, or sanious; after a time they rupture and expose an excoriated raw or ulcerated base, which heals slowly. The bullæ may be the sole lesions present, or dry or moist papules accompany them. While this must be looked on as a grave lesion, and while most of the infants so affected succumb to the disease, I have seen two cases in two successive children, both of whom survived.

The bullous eruption can scarcely be confused with any other, as in none is the determination to the palms and soles seen, unless in this. It may be said with certainty that a bullous eruption which does not implicate these localities is not syphilitic.

The question arises whether the specific lesion in the child is due to the stage of the disease in the parent. Mr. Hutchinson has answered this in the negative, and recently Otis[2] has affirmed that syphilis is not communicated by the father after the active stage has passed; that the contagious stage of syphilis ceases at the latest five years from infection, possibly within three. A syphilitic mother may, however, continue to produce

[1] See *Sydenham Society's Plates*, Nos. XXVIII. and XLVIII.

[2] *Journal of Cutaneous and Venereal Diseases*, March and April 1886.

diseased children for years, the taint lessening as a rule, but, as in cases cited by Hutchinson,[1] sometimes becoming more virulent. This it seems to me can only be explained on the assumption that the taint communicated to the mother through impregnation, in cases where she manifests no symptoms, persists, since each year removes the father further and further from the period during which he can impart the disease. Animals exhibit the same propensity. A bitch or mare pregnant to an ill-bred father is apt to fail to breed true, even though again covered by a sire of undoubted pedigree. In the human female the state of the mother's health, during and before conception, may exert some influence also.[2] The peculiar form of eruption assumed must then depend on some unknown cutaneous peculiarity. Another and perhaps more plausible explanation of the fact that syphilitic mothers for many years produce tainted offspring, while the power of originating the disease ceases much earlier in the father seems to be this. The fœtus is for nine months nourished by the mother *in utero*, and the particulate virus of syphilis has thus ample opportunity to invade its tissues, while as it lessens in the father, the chance of its being present in the special spermatozoid which occasioned impregnation is small.

Syphilis during the period of blood infection is very rarely a fatal disease in its acquired form, much more so in the congenital variety. Yet, should the child survive, in the course of from six months to a year all the cutaneous manifestations will probably have vanished, and no further evidence of its having passed through the disease may be forthcoming. Yet in certain cases individual symptoms may persist beyond a year. Thus a child aged twenty-one months was brought in May 1891 to the Royal Infirmary. It was the third of the family which had suffered. The first affected became deaf and dumb at the end of a year, when two or three. In this one condylomata at the anus had

[1] *Lettsomian Lectures*, 1885.

[2] *Glasgow Medical Journal*, May 1888, p. 443.

existed for a year, probably kept up by an irritable state of the bowels, accompanied by the presence of ascarides. Indeed, it is certain that a child may pass through the secondary stage of inherited syphilis without ever presenting any symptoms which attract the attention of its nurse.[1]

Such children at a later period are quoted as examples of "delayed inherited syphilis,"—*syphilis hereditaria tarda*—though it is not clearly ascertained if there were absolutely no symptoms within the six months succeeding birth. With one exception, the recurrence of any cutaneous lesion due to syphilis after the first year of life is so rare that it may be said practically not to happen. But from the age of five years to puberty, or even somewhat beyond, an ulcerative or phagedænic affection does sometimes attack the skin of the face, rarely elsewhere, or a similar process may cause perforation of the hard palate, and occasion extensive destruction of the nasal bones, unless its nature is recognised in time, and prompt measures of treatment be adopted. If tuberculin has any diagnostic value, this may possibly be made useful in distinguishing between lupus and inherited syphilis in its tertiary form. Almost all observers have given prominence to the statement that no reaction occurs in the case of syphilides.[2]

In some cases the process is serpiginous and deep, much dark pigmentation borders the advancing line of ulceration, while the scar which eventually forms is thin and poor. This variety may affect the chest, and destroy the thoracic muscles. In one such instance the evidence from the teeth was indistinct, but the cicatrices of fissures of the upper lip in the characteristic locality were easily discoverable. Here scraping, or the application of the acid nitrate of mercury to the advancing edge, after the removal of the crusts, should be combined with the constitutional treatment by iodides or mercurials.

Rabl inclines to the belief that certain obscure scrofulous

[1] Hutchinson, *Syphilis*, p. 74.

[2] Unna, *Monatshefte für prakt. Dermatologie*, April 15, 1891.

disorders owe their origin to inherited syphilis, but I adhere to the opinion decidedly expressed by Mr. Hutchinson, "that the suggestion that such maladies as scrofula, common lupus, and some other chronic diseases of the skin, have their root in hereditary syphilis is a baseless and improbable supposition."

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